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OM of: US-09-306-689-10

Issued_Patents_AA:*

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158.57 157.06 156.26 157 . 8

0.6119

0.6333

34 34 37 37

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Database: Issued_Patents_AA:*
Database sequences: 174772
Database length: 17957048
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Query: US-09-306-689-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Search time (sec): 62.480000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query length: 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /cgn2_6/ptodata/2/iaa/5A_COMB.pep:US-08-387-156-4
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:US-08-694-865-4
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:US-08-878-748-4
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-Q-/cgn2_1/USPTO_spool/USO9306689/runat_02032001_102824_9539/app_query.fasta_1.2389
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       /ptodata/2/laa/backfiles1.pep:5457037-3 + 66.
/ptodata/2/laa/backfiles1.pep:5457037-5 + 66.
/ptodata/2/laa/5A_COMB.pep:US-07-690-983D-18 +
/ptodata/2/laa/5A_COMB.pep:US-08-188-223-5 +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /ptodata/2/1aa/5A_COMB.pep:US-08-387-156-10/ptodata/2/1aa/5B_COMB.pep:US-08-894-865-10/ptodata/2/1aa/5B_COMB.pep:US-08-898-748-10/ptodata/2/1aa/5B_COMB.pep:US-08-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:US-09-124-491-10/ptodata/2/1aa/5_COMB.pep:
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US-09-306-689-10 x US-08-387-156-4
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/cgn2_6/ptodata/2/1aa/5B_COMB.pep:US-08-446-692-16-
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/cgn2_6/ptodata/2/1aa/5B_COMB.pep:US-08-446-692-24-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
51 CTACGGCCTGCGTCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                       1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG
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Quality:

Ratio:

290.00 5.918 100.000

Gaps: Percent Identity:

49 0 100.000

to: 49

17

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US-08-387-156-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 4, Patent No.
                                                                                                                  ATTORNEY/AUGUSTA ROBERTA L.

NAME: ROBINS, ROBERTA L.

REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 9001
TELECOMMUNICATION INFORMATION:
TOTELPHONE: (415) 617-8999
                                                                               TELEFAX: (415) 327-323
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                          APPLICATION NUMBER: US 07/9
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION UMBER: US 07/
FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 424
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US 07/960,932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: POTTER, ANDREW A APPLICANT: REDMOND, MARK J. APPLICANT: HUGHES, HUW P.A.
                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA: APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 635 BRY
CITY: PALO ALTO
STATE: CALIFORN
                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
                                                                  LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   , Application 5723129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       94301
                                              amino acid
                TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E: REED & ROBINS
635 BRYANT STREET
                                                                  49 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     UNITED STATES OF AMERICA
                                                                                                                                                                                                                                                                                                                                                                                                                          PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTTER, ANDREW A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Floppy disk
                                                                                                                                                                                                                                                                                                                                                                        10-FEB-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GnRH-LEUKOTOXIN CHIMERAS
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seq_documentation_block:
; Sequence 4, Application US/08878748
; Patent No. 5969126
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US-09-306-689-10 x US-08-694-865-4
                                                                                       seq_name: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:US-08-878-748-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  alignment_scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; MOLECULE TYPE: protein US-08-694-865-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seq_documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Quality: 290.00
Ratio: 5.918
Percent Similarity: 100.000
                                                                                                                                                                                                                                                                                                                                                                                               Align seg 1/1 to: US-08-694-865-4 from: 1 to: 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     patent No. 5837268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (415)327-323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 49 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G. TITLE OF INVENTION: GNRH-LEU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                             TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS LLP
                                                                                                                                                                                                                                           51 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 285 HAM:
CITY: PALO ALTO
STATE: CA
                                                                                                                                                                                                                                                                                                                                                  1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/694,865 FILING DATE: 09-AUG-1996 CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                          1 GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                    rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 49
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (415)327-3231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (415)327-3400
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Identity:
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100.000
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seq_documentation_block:
; Sequence 4, Application US/09124491
; Patent No. 6022960
                                                                                                                                                                                                                                                                                                                                                                                                                  alignment_block:
US-09-306-689-10 x US-08-878-748-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; MOLECULE TYPE: protein US-08-878-748-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        alignment_scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Quality: 290.00
Ratio: 5.918
Percent Similarity: 100.000
                                                                                                                                                                                                                                                                                                                                                                         Align seg 1/1 to: US-08-878-748-4 from: 1 to: 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/779

FILING DATE: 16-OCT-1991

ATTORNEY/AGENT INFORMATION:

NAME: ROBINS, ROBERTA L.

REGISTRATION NUMBER: 33,208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (415) 327-32 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 49 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                       SOFTWARE: Patentin Rel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: POTTER, ANDREW A.
APPLICANT: REDMOND, MARK J.
APPLICANT: HUGHES, HUW P.A.
TITLE OF INVENTION: GARH-LEUKOTOXIN CHIMERAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION: TELEPHONE: (415) 617-8999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
                                                                                                                                                                                                                              51 CTACGGCCTGCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                         17 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 08/387,156
FILING DATE: 10-FEB-1995
APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
                                                                                                                                                                                                                                                                                                                                   1 CAGCATTGGAGCTACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: FILING DATE: 19-JUI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                          1 GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                               /cgn2_6/ptodata/2/iaa/6_COMB.pep:US-09-124-491-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              amino acid
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UNITED STATES OF AMERICA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              635 BRYANT STREET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (415) 327-3231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US 07/779,171
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0
100.000
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GENERAL INFORMATION:

CORRESPONDENCE ADDRESS

ADDRESSEE:

E: REED & ROBINS LLP 285 HAMILTON AVENUE, SUITE

APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GRH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34

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alignment_block:
US-09-306-689-10 x US-09-124-491-4
seq_documentation_block:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          alignment_scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-124-491-4
                                                                                                                                                                                                                                                                                                                                                                                                  Quality: 290.00
Ratio: 5.918
Percent Similarity: 100.000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (415)327-323 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 9001-0016.22
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 0
FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/694,865
FILING DATE: 09-AUG-1996
APPLICATION NUMBER: US 08/387,156
FILING DATE: 10-FEB-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/124,491
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE:
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MEDIUM TYPE: Floppy disk
                                                                                                         101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                         34
                                                                                                                                                     17
                                                                                                                                                                   51 CTACGGCCTGCGGGTGGCCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 285 HAMI
CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH:
                                                                                                                                                 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA 34
                                                                     94301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             49 amino acids
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Percent Identity:
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seq_documentation_block:
; Sequence 10, Application US/08694865
; Patent No. 5837268
                                                                                                                                                                                                                                                                                                                                                                                                             alignment_block: us-09-306-689-10 \times us-08-387-156-10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Quality: 290.00
Ratio: 5.918
Percent Similarity: 100.000
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APPLICANT: POTTER, ANDREW A.
APPLICANT: REDMOND, MARK J.
APPLICANT: HUGHES, HUW P. A.
TITLE OF INVENTION: GnRH-LEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 10, Application US/08387156 Patent No. 5723129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (415) 327-32 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acids
TOPOLOGY: line-
VOLECUTE TYPE: TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 10-FEB-1995
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: ROBINS, ROBERTA L.
REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
                                                                                                                                                                                                       CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                         494 GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe 510
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ATTORNEY/AGENT INFORMATION:
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                51 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                                                                                                                                          1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 635 BRYAN
CITY: PALO ALTO
STATE: CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
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                                                                               /cgn2_6/ptodata/2/iaa/5B_COMB.pep:US-08-694-865-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              E: REED & ROBINS
635 BRYANT STREET
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, 327-3231
, 10:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Identity: 100.000
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SENERAL INFORMATION:

APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G.

TITLE OF INVENTION: GRRH-LEUKOTOXIN CHIMERAS NUMBER OF SEQUENCES: 34

CORRESPONDENCE ADDRESS:

ADDRESSEE:

REED & ROBINS LLP

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alignment_block:
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                                                                                                                                                                                                                               seq_documentation_block:
                                                                                                                                                                                                                                                                           seq_name:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-306-689-10 x US-08-694-865-10
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                                                                                                                                                                                      Patent No.
                                                                                                                                                                                        Sequence 10, Application US/08878748 Patent No. 5969126
                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (415)327-3231 INFORMATION FOR SEQ ID NO: 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                       NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                APPLICANT: POTTER, ANDREW A. APPLICANT: REDMOND, MARK J. APPLICANT: HUGHES, HUW P.A. TITLE OF INVENTION: GnRH-LEU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   494 GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 544 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                           101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                                                                                                                                                                                                                                                                                                   510 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA 527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 09-AUG-1996
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: MCCRASH, THOMAS P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: line-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: FILING DATE: 09-AU
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REGISTRATION NUMBER: 38,548
                       DDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                    CTACGGCCTGCGTCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                                                                                                                                                rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 542
                                                                                                                                                                                                                                                                           /cgn2_6/ptodata/2/1aa/5B_COMB.pep:US-08-878-748-10
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E: REED & ROBINS 635 BRYANT STREET
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5.918
                                                                                GNRH-LEUKOTOXIN CHIMERAS
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; TOPOLOGY: linear; MOLECULE TYPE: protein US-08-878-748-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             alignment_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              alignment_scores:
                                                                                                                                                                                                                             seq_documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Align seg 1/1 to: US-08-878-748-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-306-689-10 x US-08-878-748-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity: 100.000
                                                                                                                                                                                Sequence 10, Application US/09124491 Patent No. 6022960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/878,748
FILING DATE: 19-TUN-1997
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION UMBER: US 08/387,156
FILING DATE: 10-FEB-1995
APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/779,171
APPLICATION NUMBER: US 07/779,171
                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (415) 327-3231 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS
ADDRESSEE: REED & RO
                                                                                                APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GRH-LEUKOTOXIN CHIMERAS
                                                                                                                                                                                                                                                                                                                                                                                             510 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA 527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: ROBINS, ROBERTA L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                  51 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: ZIP: 943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CAGCATTGGAGCTACGGCCTGCCCCTGGCAGCGGTTCTCAAGATTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: PALO ALTO
STATE: CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE:
                     STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                    /cgn2_6/ptodata/2/iaa/6_COMB.pep:US-09-124-491-10
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: 285 HAMILTON AVENUE, PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ratio:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            544 amino acids
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                                        REED & ROBINS LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Floppy disk
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5.918
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                     SUITE 200
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94301

USA

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seq_documentation_block:
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                                                                                                                                                                                                                                                    seq_name: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:US-08-694-865-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; MOLECULE TYPE: protein US-09-124-491-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Align seg 1/1 to: US-09-124-491-10 from: 1
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                                                                                                                                                            Sequence 16, Application US/08694865 Patent No. 5837268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 10-FEB-1995

PRIOR APPLICATION NUMBER: US 07/960,932

FILING DATE: 14-OCT-1992

PRIOR APPLICATION NUMBER: US 07/79,171

APPLICATION NUMBER: US 07/779,171

FILING DATE: 16-OCT-1991

ATTORNEY/AGENT INFORMATION:

NAME: MCCRACKEN, THOMAS P.

REGISTRATION NUMBER: 38,548

REFERENCE/DOCKET NUMBER: 39001-0016.22

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:
                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (415)32/-3231
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                   101
                                                                                                                                                                                                                                                                                                                                                                                             510 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA 527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                      TITLE OF INVENTION:
                                                                                       APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       494 GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: PRIOR APPLICATION DATA:
                        CORRESPONDENCE
                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                           51 CTACGGCCTGCGTCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 544 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 09-AUCAPPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/09/124,491
                                                                                                                                                                                                                                                                                                Quality:
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REED & ROBINS LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER: US 08/694,865
09-AUG-1996
NUMBER: US 08/387,156
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5.918
                                                                 GNRH-LEUKOTOXIN CHIMERAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Identity: 100.000
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seq_documentation_block:
    Sequence 16, Application US/09124491
    Patent No. 6022960
    GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                           seq_name: /cgn2_6/ptodata/2/iaa/6_COMB.pep:US-09-124-491-16
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Ratio: 5.918
Percent Similarity: 100.000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 900
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO: 16:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/
FILING DATE: 09-AUG-1996
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P:
REGISTRATION NUMBER: 38,54
                            ZIP: 94301
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                     NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS: RED & ROBINS LLP
ADDRESSEE: REED & ROBINS LLP
STREET: 285 HAMILTON AVENUE, SUITE 200
                                                                                                                                                                                                                                   TITLE OF INVENTION: GNRH-LEUKOTOXIN CHIMERAS
                                                                                                                                                                                                                                                     APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 699 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG
COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                    CITY: PALO ALTO
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9 GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 285 HAMILTON AVENUE, SUITE 200 CITY: PALO ALTO STATE: CA
                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE:
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                                                                                                                  CA
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                                      Floppy disk
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alignment_block:
US-09-306-689-10 x US-09-124-491-16
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                                                                                                                                                                                                                                                                                                                                              seq_documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                       seq_name: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:US-08-387-156-8
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Ratio: 5.918
Percent Similarity: 100.000
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                                                                                                                                                                                                                                                                           Sequence 8, Application US/08387156
Patent No. 5723129
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/694,865
FILING DATE: 09-AUG-1996
APPLICATION NUMBER: US 08/387,156
FILING DATE: 10-FEB-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 699 amino acid
                                                                                                  NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS
STREET: 635 BRYANT STREET
                                                                                                                                                                                          APPLICANT: POTTER, ANDREW A. APPLICANT: REDMOND, MARK J. APPLICANT: HUGHES, HUW P.A. TITLE OF INVENTION: GRRH-LEUI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 9001-0016.22
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
TELEPAX: (415)327-3231
NFORMATION FOR SEQ ID NO: 16:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US 0 FILING DATE: 16-OCT-1991 ATTORNEY AGENT INFORMATION:
COMPUTER READABLE FORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                                                                                                                                                                                                                                                                                                                                 42 rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 57
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                                                                                STREET: 635 BRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: MCCRACKEN, THOMAS P. REGISTRATION NUMBER: 38,548
                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       94301
                                      CALIFORNIA
: UNITED STATES OF AMERICA
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                                                                                                                                                                                            GNRH-LEUKOTOXIN CHIMERAS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
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; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-387-156-8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   alignment_scores:
Quality:
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                                                                                                                                                                                                                                                                                                                                                                    seq_documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Align seg 1/1 to: US-08-387-156-8 from: 1 to:
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                                                                                                                                                                                                                                                                                                                          Sequence 8, Application US/08694865 Patent No. 5837268
                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (415) 327-323
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                   NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBTHY --
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                  960 rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 975
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FILLING DATE: 16-0CT-1991
ATTORNEY/AGENT INFORMATION:
NAME: ROBINS, ROBERTA L.
REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 9001-001
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APPLICATION NUMBER: US 0:
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                          APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G. TITLE OF INVENTION: GRRH-LEU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Bold-
                                                                                                                       STREET: 285 HAMI
CITY: PALO ALTO
STATE: CA
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                                                                                 ZIP: 94301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compati
                                                                                                  COUNTRY:
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                                                                                                                                                             E: REED & ROBINS LLP
285 HAMILTON AVENUE, SUITE 200
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5.918
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alignment_scores:
Quality:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          seq_name: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:US-08-878-748-8
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INFORMATION FOR SEQ ID NO: 8:
                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTTWARE: PATENTIN RELEASE #1.0, Version #1.
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/878,748
FILING DATE: 19-JUN-1997
CLASSIFICATION: 536
FILLING CARRY CARRY CLASSIFICATION: 536
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US 08/387,156
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ADDRESSEE: REED & ROBINS
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LENGTH: 977 amino acids
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                                                                                                                                                                                                                                                                                          CITY: PALO ALTO
STATE: CALIFORN
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REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 9001-0016.22
                                                                                                                                                                                                    MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                               STREET:
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HUGHES, HUW P.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTTER, ANDREW A.
                                                                                                                                                                                                                                                                    UNITED STATES OF AMERICA
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5.918
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seq_documentation_block:
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US-09-306-689-10 x US-08-878-748-8
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Patent No. 6022960
GENERAL INFORMATION:
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                                                                                                                                                                 ZIP: 94301
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                CURRENT APPLICATION NUMBER: US/09/124 CLASSITE*
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
TELEFAX: (415) 327-3231
                CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION UNMBER: US 08/694,865

FILING DATE: 09-AUG-1996
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ADDRESSEE: REED & ROBINS LLP
STREET: 285 HAMILTON AVENUE, SUITE 200
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ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: GnRH-LEUKOTOXIN CHIMERAS NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G.
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LENGTH: 977 amino acids
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CITY: PALO ALTO
STATE: CA
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)GY: linear
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: 5.918
: 100.000
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US 08/387,156
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FILING DATE: 10-FEB-1995 PRIOR APPLICATION DATA:

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; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: prot
US-09-124-491-8
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TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO: 8:
                                                                                         COMPUTER READABLE FORM:
MEDIIM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                         APPLICANT: RUSSELL-JONES, Gregory J.
APPLICANT: STEWART, Andrew G.
APPLICANT: TSONIS, Con G.
TITLE OF INVENTION: FUSION PROTEINS
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 900
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FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
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LENGTH: 977 amino acids
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                      PRIOR APPLICATION DATA:
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                                      APPLICATION NUMBER: US/0 FILING DATE: 25-JUN-1991 CLASSIFICATION: 435
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                                                                                                                                                                                                                                                                        ADDRESSEE: Foley & Lardner STREET: 3000 K Street, N.W. CITY: Washington, D.C.
                                                                                                                                                                                                                                                        COUNTRY:
ASPLICATION NUMBER:
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                                                                                  us/07/690,983D
PCT/AU90/00373
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Percent Identity: 100.000
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alignment_scores:
    Quality:
                                                                                                                                                                                                                                                                                                                                                                  ; MOLECULE TYPE: US-07-690-983D-45
                                                                                                                                                                                                                                      alignment_block:
                                                                                                                                                                                       Align seg 1/1 to: US-07-690-983D-45
                                                                                                                                                                                                                        US-09-306-689-10 x US-07-690-983D-45
                                                                                                                                                                                                                                                                     Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (202)672-539: INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
                                                              16 rTyrGlyLeuArgProGly......GluHisTrpSerTyrGlyLeuA 30
                                                                                           51 CTACGGCCTGCGGTCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
30 rgProGly......GluHisTrpSerTyrGlyLeuArgProGly 42
                                                                                                                        3 GluHisTrpSerTyrGlyLeuArgProGly......GluHisTrpSe 16
                                                                                                                                           REGISTRATION NUMBER: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                             amino acid
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4.934
77.551
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Gaps: 3
Percent Identity: 69.388
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+ + +

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sp_plant:09SLG9 + 6
sp_invertebrate:09VyW2 +
sp_invertebrate:09U9K2 +
sp_invertebrate:022667 +
sp_invertebrate:024926 +
sp_invertebrate:024925 +
sp_invertebrate:024925 +
sp_vertebrate:024925 +
                                                                                                                                                                                                                                                                                                                                                                                                                                                         sp_human:09P2Z6 +
sp_invertebrate:096500 +
sp_plant:048709 +
sp_human:095913 +
                                                                                                                                                                                                                                        sp_vertebrate:013028
sp_bacteria:033828
sp_vertebrate:09PRH0
sp_plant:09XHL9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sp_invertebrate:Q22739
sp_human:Q16273
sp_human:Q16273
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sp_mammal:Q9TSI3
sp_mammal:097655
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Database sequences: 374700
Database length: 117207915
Search time (sec): 337.480000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query length:
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sp_plant:09SLG9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sp_vertebrate:Q9PT52 +
sp_rodent:Q9WTY8 +
sp_invertebrate:Q9U617
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sp_vertebrate:Q9PT52 +
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Sequence
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-Q=/cgn2_1/USPTO_spool/US09306689/runat_02032001_102828_9616/app_query.fasta_1.2389
-DB=SPTREMEL_15 -QEWT=fastan -SUFFIX=rspt -GAPOP=12.000
-GAPEXT=4.000 -MINMATCH=0.100 -LOOPCL=0.000 -LOOPEXT=0.000
-GAPEXT=4.000 -GAPEXT=0.000 -XAAPOP=10.000 -XAAPEXT=0.500
-FGAPOP=6.000 -FGAPEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-DELOP=6.000 -DELEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-DELOP=6.000 -DELEXT=7.000 -START=1 -MATRIX=blosum62
-TRANS-human40.cdi -LIST=45 -DOCALIGN=200 -THR_SCORE=PCt
-THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL -OUTFMT=pfs
-NORM-ext -MINLEN=0 -MAXLEN=200000000
-USER=US09306689_@CGN1_1_639 -NCPU=6 -ICPU=3 -LONGLOG -NO_XLPXY
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US-09-306-689-10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            line
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94.50 186.92 0.0037

81.00 153.65 0.1283

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79.50 156.53 0.2144

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79.50 146.93 1.14

73.50 146.93 1.67

72.00 140.93 1.67

72.00 140.93 1.67

71.00 151.23 2.65

71.00 138.06 1.53

71.00 137.45 2.06

71.00 138.4 2.06

70.50 147.42 2.88

69.00 143.37 4.25

68.50 134.26 5.87

68.00 144.10 5.85

68.00 135.23 4.99

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67.00 144.38 8.00

68.00 136.33 6.59

67.00 144.38 8.00

68.50 130.11 5.29

67.00 144.38 8.00

68.50 136.39 7.89

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Len | Documentation

263 | Opht52 agkist

836 | Opwty8 rattus

33 | 1729 | Opwt17 dr

64 | 1039 | Opvt16 dr

715 | Opsfb8 arabi

197 | O00509 homo

7 | 769 | Opm815 arab

0 | 200 | P82166 lo

462 | Op7643 lamg

528 | Ol3344 hom

701 | Opl020 str

701 | Optsi3 ma

10 | Optsi3 ma

10 | Optsi3 ma

10 | Opsi12 a

257 | Opsi11 ar

10 | 754 | Opsi12 a

10 | 754 | Opsi12 a

26.71 | Opsi33 |

10 | Opsi23 |

10 | Opsi23 |

10 | Opsi3 ma

10 | Opsi3 ma

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                     1729 i Quoti7 drosophila melanogast
1039 i Q9vtr6 drosophila melanogast
15 i Q9sfb8 arabidopsis thaliana (mc
97 i Q00509 homo sapiens (human). hy
69 i Q9m8i5 arabidopsis thaliana (mc
200 i P82166 locusta migratoria (mi
62 i Q97643 lama glama (llama). fibr
18 i Q13344 homo sapiens (human). fu
10 1910z0 streptomyces coelicolor.
10 1907655 macaca mulatta (rhesus m
14 i Q97655 macaca mulatta (rhesus m
14 i Q9xil1 arabidopsis thaliana (mc
17 i Q22739 caenorhabditis elegans
18 i Q16273 homo sapiens (human). fu
19 i Q22739 caenorhabditis elegans
19 i Q4273 homo sapiens (human). fu
19 i Q22739 caenorhabditis elegans
10 i Q92739 caenorhabditis elegans
10 i Q92730 homo sapiens (human). fu
10 i Q2273 homo sapiens (human). fu
11 i Q3273 homo sapiens (human). fu
12 i Q9p10 arabidopsis thaliana (mc
17 i Q32739 caenorhabditis elegans
18 i Q9upt1 homo sapiens (human). hy
19 i Q9xil0 arabidopsis thaliana (mc
17 i Q33828 thiobacillus ferrooxidan
19 i Q9upt1 homo sapiens (human). ki
19 i Q33828 thiobacillus ferrooxidan
10 Q9upt1 homo sapiens (human). ki
10 i Q9upt1 homo sapiens (human). ki
11 i Q9upt1 homo sapiens (human). ki
12 i Q9upt2 briticum aestivum (wheat
13 i Q9upt3 arabidopsis thaliana (mc
12 i Q9vxw2 drosophila melanogast
14 i Q9upt3 aedes aegypti (yellowf
198 i Q24625 eupryma scolopes. per
10 Q4425 eupryma scolopes.
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Q9wty8 rattus norvegicus
          Q9pvf5 brachydanio
! Q9ngi8 drosophila
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(rat)
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sp_invertebrate:061603 +
sp_invertebrate:077072 +
sp_rodent:09X201 +
sp_human:09P2N8 +
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seq_documentation_block:
ID Q9PT52
AC Q9PT52
AC Q9PT52
AC Q9PT52
DT 01-MAY-2000 (TrEMBLrel. 13
DT 01-MAY-2000 (TrEMBLrel. 13
DT 01-UN-2000 (TrEMBLrel. 14
DE BPP-CNP PRECURSOR HOMOLOG.
OS Agkistrodon halys blomhoff och Lepidosauria; Squamata; Sc Cuperidae; Crotalinae; Agk OX NCBI_TaxID=61300;
RN (1]
RN (1]
RN (1]
RP SEQUENCE FROM N.A.
RC TISSUE=VENOM GLAND;
RA MURAYAMA N.;
RP SEQUENCE FROM N.A.
RC TISSUE=VENOM GLAND;
RA MURAYAMA N.;
RP SEQUENCE FROM N.A.
RC TISSUE=VENOM GLAND;
RA MURAYAMA N.;
RP SEQUENCE FROM N.A.
RC TISSUE=VENOM GLAND;
RA MURAYAMA N.;
RP SEQUENCE FROM N.A.
RC TISSUE=VENOM GLAND;
RA MURAYAMA N.;
RP SEQUENCE 300;
RN (1]
RT "Agkistrodon blomhoff och the EMBL; AB020810; BAA36953:1
DR EMBL; AB020810; BAA36953:-
DR PRAM; PF00212; ANP; 1
DR PRINTS; PR00710; NATPEPTID DR PROSTTE; P800710; NATPEPTID DR PROSTTE; P800263; NATPETIDE FT CHAIN
31 40
FT CHAIN
49 59
FT CHAIN
59 FT CHAIN
113 113
FT CHAIN
117 127
FT CHAIN
118 242
263
SEQUENCE 263 AA; 27339
seq_documentation_block:
ID Q9WTY8 PRELIMI
AC Q9WTY8;
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US-09-306-689-10 x Q9PT52
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    Quality:
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Lited (DEC-1998) to \
ABL; ABO20810; BAA36953.1.

INTERPRO; IPRO00663; -.

PFAM; PFO0212; ANP; 1.

PRINTS; PR00710; NATPEPTIDES.
PROSITE; PS00263; NATRIURETIC_PEPA
POTENTIA.

103 113
17 127
263
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Agkistrodon halys blomhoffi (Mamushi) (Gloydius blomhoffil).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleost
Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
Viperidae; Crotalinae; Agkistrodon.
                                                                                                                                                                              115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Agkistrodon blomhoffi cDNA for BPP-CNP precursor homolog Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases. EMBL, AB020810; BAA36953.1; -.
INTERPRO; IPR000663; -.
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                                                                                                                                                                                                                                                                                                                                                                                                  lValGlnGlnTrpSerGlnGlyLeuProProGlyProProIleProArgL 60
                                                                                                                                  ProLeuValValGlnGlnTrpSerGlnGlyLeuProPro
                                                                                                                                                                                                                     euValValGlnGlnTrpSerGlnGlyLeuProProGlyProProIlePro
                                                                                                                                                                                                                                                                    .... AGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGT.....
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(TrEMBLrel. 13, Last sequence update)
(TrEMBLrel. 14, Last annotation update)
                       PRELIMINARY;
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129.29 13.09
124.79 12.06
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Percent Identity:
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BLOMHOTIN.
POTENTIATOR A.
LEU3-BLOMHOTIN.
POTENTIATOR C.
POTENTIATOR B.
POTENTIATOR B.
POTENTIATOR E.
COP-22.
COP-22.
                       PRT;
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                       836
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41.270
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2715
384
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[5 : Q61603 drosophila melano

1 : Q77072 eisenia foetida (c

2 : Q9z201 cavia porcellus (gui

2 : Q9p2n8 homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Euteleostomi;
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melanog
tida (co
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(human).
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seq_name: sp_invertebrate:Q9U617
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                                                                                                                                                                                                                                                                                                                                   _documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 626
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Murinae; Rattus
                               hubmitted (NOV-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                        SEQUENCE FROM N.A.
STRAIN=OREGON R;
Chartier A., Astier M.,
                                                                                                                                                                Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Eukaryota; Metazoa; Arthropoda; Diptera; Brachycera; Musc
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Musc
Ephydroidea; Drosophilidae; Drosophila.
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                                                                                                                                                                                                                                                                                                                                                                                                                        107
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J. Biol. Chem. 274:8123-8128(1999).
EMBL; AF091457; AAD22522.1; -.
HMSSP, P07248: 1ARD.
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MEDLINE-99175194; PubMed=10075714;
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01-NOV-1999 (TIEMBLIE1 12,
01-OCT-2000 (TIEMBLIE1 15,
ZINC FINGER PROTEIN RIN ZF.
SEQUENCE
                                                melanogaster.";
                                                         Chartier A., Astier M., Zaffran S., Semeriva M., Gratecos D.; "Characterization of an extracellular matrix component specifica expressed in the basal lamina of the dorsal vessel in Drosophila
                                                                                                                       SEQUENCE FROM
                                                                                                                                                                                                                                          PERICARDINE.
                                                                                                                                                                                                                                                          01-MAY-2000
01-OCT-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tillotson L.G.;
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                 EMBL; AF203342; AAF13280.1;
                                                                                                                                                                                                                                                                                                     Q9U617;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INTERPRO; IPR000822;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   57
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836 AA; 91698 MW; E4F48AB2720676C1 CRC64;
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   1729 AA;
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   DA9B1B7FAB5CDEDB CRC64;
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                                                                                                                                                                                 Brachycera; Muscomorpha;
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alignment_scores:
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RA Addams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Addams M.D., Celniker S.E., Holt R.A., Elsans C.A., Gocayne J.D.,
RA Addams M.D., Celniker S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA George R.A., Lewis S.E., Randell M.D., Zhang Q., Chen L.X.,
RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Barlew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dawnes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Durbin K.J., Evangelista C.C., Ferraz C., Ferriaz S., Fleischmann W.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Heiman T.J., Wei M.-H., Ibegwam C.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Liu X., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.,
RA Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  seq_name:
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Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ephydroidea; Drosophilidae; Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=20196006; PubMed=10731132;
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||ProGlyTyrGlyThrGlnProGly
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yTyrGlyThrGlnProGlyIleGlyGlyGlnThrGlyAlaGlyGlnPro. 432
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGAGCTACGGCCTGCCCCTGGCAGCGGTAGCCAAGATTGGAGC.....
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ....TACGGCCTGCGTCCGGGT
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37.931
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seq_documentation_block:
ID Q9SFB8 PRELIMINARY;
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Quality:
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Percent Similarity:
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                                                                                     STRAIN-CV. COLUMBIA;
Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Haas B.,
Ronning C.M., Koo H., Fujii C.Y., Utterback T.R., Barnstead
Bowman C.L., White O., Nierman W.C., Fraser C.M.;
"Arabidopsis thaliana chromosome III BAC F17A17 genomic sequ
"Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; ACC13483; AAF21206.1; ".
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY-2000 (TREMBLrel. 13, Created)
01-MAY-2000 (TREMBLrel. 13, Last sequence update)
01-JUN-2000 (TREMBLrel. 14, Last annotation update)
PUTATIVE PHOSPHATIDYLINOSITOL-4-PHOSPHATE 5-KINASE.
                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; S
Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Arabidopsis thaliana (Mouse-ear cress).
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FLYBASE; FBgn0036231; CG5700.
SEQUENCE 1039 AA; 102635 MW;
PROSITE; PS00639;
                     INTERPRO; IPRO00169; -.
INTERPRO; IPRO02498; -.
PFAM; PF01504; PIP5K; 1
                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                               Brassicales;
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                                                                                                                                                                                                                                                                                                                                                            Brassicaceae; Arabidopsis.
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2.439
61.111
THIOL_PROTEASE_HIS; UNKNOWN_1
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Gaps: 4
Percent Identity: 40.741
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                                                                                                                           17 genomic sequence.";
databases.
                                                                                                                                                                                                                                                                                                                                                                               Spermatophyta;
e; eurosids II;
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Е.,
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715 AA;

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795D86CEB1FB52E9 CRC64

alignment_scores:
 Quality:

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83

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seq_name:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ratio:
Percent Similarity:
                                                                                                                                                                                                                                                                                        MEDLINE-YOLAZIO, CALOR B., Bianchl E., Gualandi G., Frezza D., Scotto A., Bianchl E., Fruscalzo A., Calof E.;
"Integration of an Epstein-Barr virus episome immunoglobulin heavy-chain alpha 1 in
                       Submitted (JUN-1997) to the EMBL; X76785; CAA54181.1; -
                                                                                                                                                                                                                                                                                                                                 SEQUENCE ENCH.
TISSUE-PLACENTA, AND PBMC;
MEDLINE-96125193; PubMed-8843165;
MEDLINE-96125193; PubMed-8843165;
MEDLINE-96125193; PubMed-8843165;
                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JUL-1997 (TREMBLIGE). 04,
01-AUG-1998 (TREMBLIGE). 07,
01-NOV-1998 (TREMBLIGE). 08,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             167
                                                                                                                                                                                                                                       TISSUE=PLACENTA, AND PBMC;
                                                                                                                                                                                                                                                                                                                                                                                                                                          HYPOTHETICAL 21.0 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          151 TrpLysAsnGlyLeuMetAsnGlyAsnGlyThrMetIleTrpSerAsnGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 TGGAGCTACGGCCTGCCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCAGCGGTAGCCAAGATTGGAGCTACGGC
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                                                                                              (FEB-1997) to the
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                                                                                                                                                                                                               (NOV-1993) to the EMBL/GenBank/DDBJ databases
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3.180
58.140
                                                            AND PBMC;
   20977
                                                                                                                      PBMC;
                                                                                                                                                                              PBMC;
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                                    EMBL/GenBank/DDBJ databases
                                                                                              EMBL/GenBank/DDBJ databases.
                                                                                                                                                       EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Created)
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  7EF9725ED9D18CCF
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Identity:
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  CRC64;
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seq_documentation_block:
ID Q9M815
AC Q9M815
DT 01-OCT-2000 (TrEMBLTel. 15
DT 01-OCT-2000 (TREMBLTel. 15
DT 01-OCT-2000 (TREMBLTel. 15
DT 01-OCT-2000 (TREMBLTel. 15
DE PUTATIVE PHOSPHATIDYLINOSI
GN T791.4
OS Arabidopsis thaliana (Mous
OC Eukaryota; Viridiplantae;
OC Magnoliophyta; eudicotyled
OC Brassicales; Brassicaceae;
OX MGBL_TAXID=3702;
RN [1] FROM N.A.
RC STRAIN-CV. COLUMBIA;
RA FORMING C.M., KOO H., Fuji
RA ROMING C.M., KOO H., Fuji
RA BOMMAN C.L., White O., Nie
RA BOMMAN CL. White O., Nie
RA BOMMAN COLD.
RA SUBMITTE OLD TO THE
RA BOMMAN CL. White O., Nie
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RA BOMMAN CL. WHITE OLD TO
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US-09-306-689-10 x
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    Quality:
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Percent Similarity:
                                                                                                                                                                                                                                                                              Align seg 1/1 to: Q9M8I5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-CV. COLUMBIA;
Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Haas B., Wu Ronning C.M., Koo H., Fujii C.Y., Utterback T.R., Barnstead M.E Bowman C.L., White O., Nierman W.C., Fraser C.M.;
"Arabidopsis thaliana chromosome I BAC T7P1 genomic sequence.";
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       O9M815;

01-OCT-2000 (TrEMBLrel. 15, Created)

01-OCT-2000 (TrEMBLrel. 15, Last sequence update)

01-OCT-2000 (TrEMBLrel. 15, Last annotation update)

PUTATIVE PHOSPHATIDYLINOSITOL-4-PHOSPHATE 5-KINASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.

NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     115
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                127
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arabidopsis thaliana (Mouse-ear cress).
                                                         57 CCTGCGTCCGGGTGGCTCT.....
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yAsnArgPheIleGlyAsnTrpLysLysGlyLysMetSerGlyArgGlyV 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pLeuValThrGlnProTrpSerSerSerLeuSerProGlyProArgHisS
                                                                                                                                     TrpArgGluGlyLeuGlnAspGlySerGlySerTyrSerTrpTyrAsnGl 132
                                                                                                                                                                            TGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ....TCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCT....
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2.714
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38.554
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Percent Identity:
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alignment_block:
US-09-306-689-10/rev x P82166
                                                                                                                                                                                                       alignment_scores
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                                                                                                   Align seg 1/1 to:
                                                                                                                                                                  Percent Similarity:
                                                                                                                                                                                                                                             REPEAT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P82166;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
CUTICLE PROTEIN 19.8 (LMNCP19.8).
                                                 Anderson S.O.;
Submitted (NOV-1999) to the SWISS-PROT data bank.
-:- FUNCTION: COMPONENT OF THE CUTICLE OF MIGRATORY LOCUST WHICH CONTAINS MORE THAN 100 DIFFERENT STRUCTURAL PROTEINS.
-:- DOMAIN: THE TETRAPEPTIDE (A-A-P-[AV]) REPEATS FOUND THROUGHOUT PROTEIN ARE ALSO PRESENT IN MANY PROTEINS CONSTITUTING THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Locusta migratoria (Migratory locust).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda;
Pterygota; Neoptera; Orthopteroidea; Orthoptera; Cael
Acridomorpha; Acridoidea; Acrididae; Locusta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            166
                       100 GCAGGCCGTAGCTCCAATGCTGGCTAGAGCCACCCGGACGCAGGCCGTAG
                                                                         144 CGGACGCAGGCCGTAGCTCCAATCTTGGCTACCGCT.....GCCAGGGC
                                                                                                                                                                                                                                                                       REPEAT
                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS00233; CUTICLE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS; PR00947; CUTICLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=FIFTH INSTAR LARVAE CUTICLE;
156 aAlaIleAlaAlaProAlaTyrAla.
                                                                                                                                                                                                                                                                                                                                                                                                                           INTERPRO; IPR000618; -
                                                                                                                                                                                                                                                                                                                                                                                                                                       PROTECTIVE ENVELOPE OF OTHER SPECIES.
-!- SIMILARITY: CONTAINS A CUTICLE CONSENSUS DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          149 alMetSerTrpAlaAsnGlyAspLeuPheAsnGlyPheTrpLeuAsnGly 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         eGlyThrTrpSerArgGlyLeuLysAspGly 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGCGCCCTGGCAGCGGTAGCCAA
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                                                                                                                                                                                           Quality:
                                                                                                                                                                               Ratio:
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                                                                                                                                                                                                                                                                                                                                                                                                              insect_cuticle; 1.
                                                                                                   P82166 from:
                                                                                                                                                                 74.00
2.387
65.957
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                                                                                                                                                                                                                                              19815 MW;
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Gaps:
Percent Identity:
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 ThrTyrAlaAlaA
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46.809
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alignment_scores:
    Quality:
    Ratio:
    Percent Similarity:
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US-09-306-689-10 x 097643
                                                                                                                                                                                                                                                                                                                                         seq_documentation_block:
ID Q13344 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           seq_documentation_block:
ID 097643 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                             seq_name: sp_human:Q13344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq_name:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Align seg 1/1 to: 097643
Itoh K., Kawase M.;
Submitted (SEP-1995) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: PROBABLE RNA-BINDING PROTEIN (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
-!- SIMILARITY: CONTAINS 1 RNA RECOGNITION MOTIF (RNP).
-!- SIMILARITY: TO FUS AND EWS.
EMBL; U36561; AAA79948.1; -.
                                                                                                                                                                NCBI_TaxID=9606;
                                                                                                                                                                                             Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                 01-NOV-1996 (TrEMBLrel. 01, 01-NOV-1996 (TrEMBLrel. 01, 01-OCT-2000 (TrEMBLrel. 15, FUS-LIKE PROTEIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Lama.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequ
01-NOV-1999 (TrEMBLrel. 12, Last anno
FIBRINOGEN A-ALPHA CHAIN (FRAGMENT).
                                                                                                                          SEQUENCE FROM N.A. TISSUE=CARCINOMA;
                                                                                                                                                                                                                                                                                                                                                                                                                                  198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sGlySerProGluProGlySerAlaGlyAlaTrpThrHisGlyHisLeuG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTG...CGTCCGGGT 147
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462 AA;
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Last annotation updat
                                                                                                                                                                                                                                                                                                       Created)
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Last annotation update
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                                                                                                                                                                                           Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                           PRT;
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                                                                                                                                                                                                                Euteleostomi;
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REL SEGNATION OF THE PROPERTY 
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US-09-306-689-10 x
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INTERPRO; IPR001419; -.
INTERPRO; IPR001876; -.
INTERPRO; IPR002961; -.
PFAM; PF00076; ITM; 1.
PFAM; PF00641; Zf-RanBP; 1
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Q9L0Z0 PRELIMINARY;
                                                                                                                                                                                                                                                                               Q9L0Z0;
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation updat
HYPOTHETICAL 73.3 KDA PROTEIN.
STRAIN-A3(2);
Cerdeno A.M., Parkhill J., I
Submitted (MAR-2000) to the
                                                                                                                         STRAIN=A3(2);
Seeger K.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
DOMAIN
                                                                                                           Submitted
                                                                                                                                                                                                       Actinomycetales;
NCBI_TaxID=1902;
                                                                                                                                                                                                                          Bacteria; Firmicutes; Actinobacteria; Actinobacteridae; Actinomycetales; Streptomycineae; Streptomycetaceae; St
                                                                                                                                                                                                                                                                    Streptomyces coelicolor.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86
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    Barrell B.G., Rajandream M.A.
e EMBL/GenBank/DDBJ databases.
                                                                                                         EMBL/GenBank/DDBJ
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RNA-BINDING (
ARG/GLY-RICH.
POLY-GLY.
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POLY-GLY.
POLY-GLY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        POLY-SER.
POLY-GLY.
POLY-GLY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C4-TYPE (POTENTIAL).
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(RNP1)
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                           Rajandream M.A.;
                                                                                                                                                                                                                                                                                                                             update)
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SIMILARITY).
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SQ

NON_TER SEQUENCE

1068 AA;

118288 MW;

3F4C693E1597174B CRC64;

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alignment_block:
US-09-306-689-10 x Q9L0Z0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq_name: sp_vertebrate:057480
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Redenbach M., Kieser H.M., Denapaite D., Eichner A., (Rinashi H., Hopwood D.A.;
"A set of ordered cosmids and a detailed genetic and the 8 Mb Streptomyces coelicolor A3(2) chromosome.";
Mol. Microbiol. 21:77-96(1996).
EMBL; AL159139; CAB76891.1; -.
Hypothetical protein.
SEQUENCE 701 AA; 73279 MW; 558DFCBBC77BC412 CRC64
                                                                                                                                                                                                                                                                                                                                                                                                                          documentation_block:
        PFAM; PF00069; pkinase; 1.
PFAM; PF00211; guanylate_cyc; 1.
PFAM; PF01091; ANF_receptor; 1.
PRINTS; PR00109; TYRKINASE.
PROSITE; PS00452; GUANYLATE_CYCLASES;
PROSITE; PS50011; PROTEIN_KINASE_DOM;
                                                                                                                                                                                                                                                                                                                                      01-JUN-1998 (TrEMBLrel. 06, Created)
01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
PHOTORECEPTOR GUANYLATE CYCLASE 1 (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  626
                                                                                                                                                                                                      STRAIN=RHODE ISLAND RED; TISSUE=RETINA-PIGMENT EPITHELIUM-CHOROID; Semple-Rowland S.L., Lee N.R., Van Hooser J.P., Palczewski K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     610 spGlyTyrGlyAlaArgAspGlyTyrGlyAlaArgAsp...GlyTyrGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          593 gProGlyHisGlyThrGlyAspGlyGlyAspGlyHisArgSerGluA
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SEQUENCE FROM N.A.
                                                                                           INTERPRO; IPRO01828; -.
                                                                                                                        INTERPRO;
                                                                                                                                   INTERPRO;
                                                                                                                                                              EMBL; AF036942;
                                                                                                                                                                                         Baehr W
                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                           NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                     Archosauria;
                                                                                                                                                                                                                                                                                                  Eukaryota;
                                                                                                                                                                                                                                                                                                                Gallus gallus (Chicken).
                                                                                                         INTERPRO;
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                                                                                                                                                                             Natl. Acad. Sci.
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a; Aves; N
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                                                                                                                                                              d. Sci. U.S.A. 0:0-0(1997)
AAC24500.1; -.
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2.483
53.704
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; Galliformes; Phasianidae; Phasianinae;
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alignment_block:
US-09-306-689-10 x Q9TSI3
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Quality:
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US-09-306-689-10 x O57480
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                                                                                                                                                                                                                                                                                                                                                                    Abler L.A., Sherwood N.M., Grendell R.L., Golos T.G., Terasa "CDNA of a second form of luteinizing hormone releasing, chi "in 1 soolated from the non-human primate brain (Abstract 632. Abstr. - Soc. Neurosci. 24:1607-1607(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metažoa; Chordata; Craniata; Ve
Mammalia; Eutheria; Primates; Catarrhini;
Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        O9TSI3;
01-mAY-2000 (TrEMBLrel. 13, Created)
01-mAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
CHICKEN LITEINIZING HORMONE-RELEASING HORMONE II (F
                                                                                                                                                                                                                                                                                                PROSITE; PS00473; GNRH; 1.
NON_TER 107 107
SEQUENCE 107 AA; 11823
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                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Macaca mulatta (Rhesus macaque).
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                            41 rAlaGlnAspProGlnAsnAlaLeuArgProProAlaGlySerProAlaG
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                                                      36 TTCTCAAGATTGGAGCTACGGCCTGCGT...CCGGGTGGCTCTAGCCAGC
                                                                                  1 CAGCATTGGAGCTACGGCCTGCGCCCTGGC.....
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ATTGGAGCTACGGCCTG 99
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                                                                                                                                                                                                                                                                                                   FACEE52703C3CB1D CRC64;
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632.8).";
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58

:: ::!!!!!!!! lnAlaThrTyrGlyLeu

63

sp_mammal:097655

114

B

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seq_documentation_block:
ID 097655;
AC 097655;
AC 097655;
AC 01-MAY-1999 (TTEMBLTel. 10
DT 01-MAY-1999 (TTEMBLTel. 11
DT 01-OCT-2000 (TTEMBLTel. 15
DE GONADOLIBERIN (GONADOTROPI
DE PRECURSOR.
GNR12.
OS Macaca mulatta (Rhesus mac
OC Eukaryota; Metazoa; Chorda
OC Mammalla; Eutheria; Primat
OC Cercopithecinae; Macaca.
OX NCBI_TaxID=9544;
RN [1]
RP SEQUENCE FROM N.A.
RA White R.B., Urbanski H.F.,
RT rhesus macaque (Abstract #
RL Abstr. - Soc. Neurosci. 24
CC -:- FUNCTION: STIMULATES T
CC FUNCTION: STIMULATES T
CC FUNCTION: STIMULATES T
CC FEMBL; AF097356; AAD09106.1
DR INTERPRO; IPRO02012; -
DR PFAM; PF00446; GARH; 1.
DR PROSTTE; PS00473; GNRH; 1.
DR PRODOM; PD029787; -; 1.
KW Hormone; Maidation.
  seq_documentation_block:
ID Q9XIL1 PRELIMINARY;
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US-09-306-689-10 x 097655
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Quality:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              white R.B., Urbanski H.F., Fernald R.D.;

"A second gene for gonadotropin-releasing hormone is express macaque (Abstract #632.18).";

Abstr. - Soc. Neurosci. 24:1609-1609(1998).

-i. FUNCTION: STIMULATES THE SECRETION OF BOTH LUTEINIZING FOLLICLE-STIMULATING HORMONES.

-i. FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.

EMBL; AF097356; AAD09106.1; -.

INTERPRO; IPRO02012; -.

R PRAM; PRO0464; GNRH; 1.

R PRODOM; PD002787; -; 1.
                Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II;
                                                                            01-NOV-1999 (TrEMBLrel. 12, 01-NOV-1999 (TrEMBLrel. 12, 01-OCT-2000 (TrEMBLrel. 15, F19G14.22 PROTEIN. F19G14.22)
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele
Mammalla; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Macaca.

NCBI_TaxID=9544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAY-1999 (TrEMBLrel. 10, Created)
01-WAY-1999 (TrEMBLrel. 10, Last sequence update)
01-CCT-2000 (TrEMBLrel. 15, Last annotation update)
GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LULIBERIN)
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  Brassicaceae;
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Arabidopsis
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Last sequence update)
Last annotation update
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alignment_block:
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                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN-CV. COLUMBIA;
Lin X., Kaul S., Shea T.P., Fujii C.Y., Shen M., Vanaken S.E.,
Barnstead M.E., Mason T.M., Bowman C.L., Ronning C.M., Benito M.,
Carrera A.J., Creasy T.H., Buell C.R., Town C.D., Nierman W.C.,
Fraser C.M., Venter J.C.;
"Arabidopsis thaliana chromosome II BAC F19G14 genomic sequence.";
Submitted (JUL-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AC006438; AAD41986.1; -.
HSSP; P00303; 2CBP.
SEQUENCE 257 AA; 27400 MW; DA59B77A93D53A17 CRC64;
   153
                            129 CTACGGC 135
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                                                                                                                                                                       103 ySerGlyTrpGlyMetGlyProAsnAsnAsnTyrSerSerGlySerGlyG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=3702;
                                                                                                                                             71
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                                                                                                                                            GCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGC.....
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TrpGlyTrpGlyGlyValProAsnAsnThrHisSerSerGlySerGlyGl
rTyrGly 155
                                                                                                                 lySerGlySerGlyTrpGlyTyrGlyGlyHisSerLysAsnTyrAsnAla
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O95336 tupaia glis belang P27806 triticum aestivum (w P08247 homo sapiens (huma P24096 bovine herpesvirus

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Swissprot_39:FUS_HUMAN +
Swissprot_39:GON1 HAPBU +
Swissprot_39:GON1 XENLA +
Swissprot_39:GON1 XENLA +
Swissprot_39:GON2_HUMAN +
Swissprot_39:GON2_HUMAN +
Swissprot_39:GON1_TUPGB +
Swissprot_39:GON1_TUPGB +
Swissprot_39:GON1_PAGMA +
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Swissprot_39:GON1_SPAGU +
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Swissprot_39:GON1_MESGU +
Swissprot_39:GON1_MESGU +
Swissprot_39:GIT5_MHEAT +
Swissprot_39:GIT5_MHEAT +
                                                   Swissprot_39: ANP4_PSEAM -
Swissprot_39: BETI_RHIME -
Swissprot_39: TRI_DROME -
Swissprot_39: TRI_DROME -
Swissprot_39: ACES_CHICK +
Swissprot_39: ACES_CHICK +
Swissprot_39: CON1_CHICK +
Swissprot_39: CON3_HUMAN +
Swissprot_39: CON3_HUMAN +
Swissprot_39: CON3_BUMAN +
Swissprot_39: CYAA_BORBR +
Swissprot_39: CYAA_BORBR +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database sequences: 88757
Database length: 32294092
Search time (sec): 97.840000
                          SwissProt_39:GYAA_BORPE
SwissProt_39:GLT4_WHEAT
                                                                                                                                                                                                                                                                                                                                                                                                        SwissProt_39:FUS_MOUSE
SwissProt_39:FUS_BOVIN
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SwissProt_39:GON1_RAT +
SwissProt_39:SVS2_RAT +
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SwissProt_39:GON1_HUMAN
SwissProt_39:GON1_MOUSE
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SwissProt_39:SM50_STRPU
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Query length: 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database:
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-DB=SwissProt_39 -OpmT=fastan -SUFFTX=rsp -GAPOP=12.000
-GAPEXT=4.000 -MINMATCH=0.100 -LOOPCIL=0.000 -XGAPEXT=0.000
-QGAPOP=4.500 -QGAPEXT=0.050 -XGAPOP=10.000 -XGAPEXT=0.500
-FGAPOP=6.000 -FGAPEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-DELOP=6.000 -DELEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-DELOP=6.000 -DELEXT=7.000 -START=1 -MATRIX=blosum62
-TRANS=human40.cdi -LIST=45 -NOTELIGN=200 -THR_SCORE-PCt
-THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE-LOCAL -OUTFMT=pfs
-NORM-ext -MINLEN=0 -MAXLEN=200000000
-USER=US09306689_@CGN1_1_176 -NCPU=6 -ICPU=3 -LONGLOG -NO_XLPXY
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  Documentation

407 ! Q26264 he

445 ! P11994 st

67 ! P55247 mac

92 ! P01148 hom

90 ! P13562 mus
                                                                                                                                                                                                                                                                                                                                             ! P49921 sus scrofa (pig). progon ! P07490 rattus norvegicus (rat). ! P22006 rattus norvegicus (rot). ! P25095 mus musculus (mouse). 2 ! Q28009 bos taurus (bovine). 1 | P35637 homo sapiens (human). 1 | P31918 haplochromis burtoni. 1 | P31918 haplochromis burtoni. 1 | P31918 haplochromis pictus (pai) | P45656 xenopus laevis (africa) |
                                                                                                                              P02734 pseudopleuronecta amer
1 069786 rhizobium meliloti (s
1 P50887 drosophila melanogast
1 P36188 drosophila melanogast
             ! P08489 triticum aestivum
! P46591 candida albicans (
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                                                               P36196 gallus gallus (chicker P04104 mus musculus (mouse). P37042 gallus gallus (chicker P51991 homo sapiens (human). P25340 salmonella typhimuriu
                                                                                                                                                                                                    Q0291
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009163 mesocricetus auratus
                                                                                                                                                                                                                                      054713 cavia porcellus (guine P70074 pagrus major (red sea P51919 sparus aurata (gilthea Q15653 homo sapiens (human)
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1 O43555 homo sapiens (human)
054713 cavia porcellus (guin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P55247 macaca mulatta (rhesus P01148 homo sapiens (human). P13562 mus musculus (mouse).
                                                                                                                                                                                      202910 drosophila melanogast
P10388 triticum aestivum (w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q26264 hemicentrotus pulche
                                        Q57506 bordetella bronchise
P15318 bordetella pertussis
                                                                                                                                                                                                    alignment_block:
                                                                                                                                             alignment_scores:
    Quality:
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SwissProt_39:H1_WHEAT -
SwissProt_39:SYPH_HUMAN +
SwissProt_39:KITH_HSVB6 -
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SEQUENCE
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217 GlnGlnProGlyPheGlyAsnGlnProGlyMetGlyGlyArgGlnProGl
                                                                                                                                                                                                                              DOMAIN
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                          1 CAGCATTGGAGCTACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAG
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seq_name: SwissProt_39:SM41_HEMPU
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15-DEC-1998 (Rel. 37, Created)
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15-DEC-1998 (Rel. 37, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation—the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                PROSITE; PS00615; C_TYPE_LECTIN_1; FALSE_NEG PROSITE; PS50041; C_TYPE_LECTIN_2; 1. Matrix protein; Signal; Repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein in Hemicentrotus pulcherrimus micromeres.";
Int. J. Dev. Biol. 36:353-361(1992).
-!- FUNCTION: MAJOR MATRIX PROTEIN OF THE SEA URCHIN EMBRYO SPICULE
-!- WHICH DIRECTS CRYSTAL GROWTH IN CERTAIN ORIENTATIONS AND INHIBIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=93075615; PubMed=1445780;
Katoh-Fukui Y., Noce T., Ueda T., Fujiwara Y., Hashimoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hemicentrotus pulcherrimus (Sea urchin).
Eukaryota; Metazoa; Echinodermata; Eleutherozoa; Echinozoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41 KDA SPICULE MATRIX PROTEIN PRECURSOR (HSM41) (HPSMC).
                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; S48755; AAB24285.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Isolation and characterization of cDNA encoding a spicule matrix protein in Hemicentrotus pulcherrimus micromeres.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Echinoidea; Euechinoidea; Echinacea; Echinoida; Strongylocentrotidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tanaka S., Higashinakagawa T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GROWTH IN OTHERS (BY SIMILARITY).
SUBCELLULAR LOCATION: SECRETED.
TISSUE SPECIFICITY: EXPRESSED SPECIFICALLY IN THE
MICROMERE/PRIMARY MESENCHYME CELLS (PMC) LINEAGE.
DEVELOPMENTAL STAGE: APPEARS IN GASTRULAE AND REMAINS
LEVEL UNTIL THE PLUTEUS STAGE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: CONTAINS 1 C-TYPE LECTIN FAMILY DOMAIN. SIMILARITY: BELONGS TO THE SM50 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN: THE REPETITIVE DOMAIN MAY PROVIDE A CALCITE BINDING
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  Gaps:
Percent Identity:
                                                                                                                                                      PRO-RICH.
; 5A5397C46B80F6B5 CRC64;
                                                                                                                                                                                                                                POTENTIAL.
41 KDA SPICULE MATRIX PROTEIN
C-TYPE LECTIN.
                                                           Length:
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                       CHAIN
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DOMAIN
                                                                                                                         PROSITE;
                                                                                                                                                                                                                          EMBL; M16231;
EMBL; M16230;
                                                                                                                                                                                                                                                                                                       the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
MEDLINE=87162883; PubMed=3030858;
Sucov H.M., Benson S.C., Robinson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Echinodermata; Eleutherozoa; Echinozoa; Echinoidea; Euechinoidea; Echinoidea; Echinoidea; Echinoidea; Echinoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Strongylocentrotus purpuratus (Purple sea urchin). Eukaryota; Metazoa; Echinodermata; Eleutherozoa; F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              50
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                                                                         SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "The corrected structure of the SM50 spicule matrix protein Strongylocentrotus purpuratus."; Dev. Biol. 145:201-202(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Strongylocentrotus
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Katoh-Fukui Y., Noce T., Ueda T., Fujiwara Y., Hashimoto N.,
Higashinakagawa T., Killian C.E., Livingston B.T., Wilt F.H.,
Benson S.C., Sucov H.M., Davidson E.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dev. Biol. 120:507-519(1987).
                                                                                              Matrix protein;
                                                                                                                                                                                                        PIR; A27263; A27263.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION: MAJOR MATRIX PROTEIN OF THE SEA URCHIN EMBRYO SPICULE.
THE FUNCTION OF THE MATRIX PROTEINS IS TO DIRECT CRYSTAL GROWTH IN
CERTAIN ORIENTATIONS AND INHIBIT GROWTH IN OTHERS.
TISSUE SPECIFICITY: EXPRESSED SPECIFICALLY IN THE
MICROMERE/PRIMARY MESENCHYME CELLS (PMC) LINEAGE.
DEVELOPMENTAL STAGE: DETECTED AT HATCHING BLASTULA, IT REMAINS AT
A CERTAIN LEVEL FROM THE MESENCHYME BLASTULA TO THE PLUTEUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: CONTAINS 1 C-TYPE LECTIN FAMILY DOMAIN SIMILARITY: BELONGS TO THE SM50 FAMILY.
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                                                                                                                         PS00615; C_TYPE_LECTIN_1; PS50041; C_TYPE_LECTIN_2;
                                                                                                                                                                              IPR001304;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (Rel. 12, Created)
(Rel. 32, Last seq
(Rel. 37, Last ann
  123
                                                                                                                                                                                                                          AAA30071.1; -.
AAA30071.1; JOINED
                                                                                                                                                                                                                                                       AAA30071.1;
                                                                            Repeat;
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50 KDA SPICULE MATRIX PROTEIN.
C-TYPE LECTIN.
PRO-RICH.
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                                                                                                                              FALSE_NEG
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US-09-306-689-10 x SM50_STRPU
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                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Neuroendocrinology 60:346-359(1994).
-!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Macaca mulatta (Rhesus macaque).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P55247;
01-OCT-1996 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           253 oGlyTrpGlyAsnGlnProGlyValGlyGlyArgGlnProGlyMetGlyG
                                                                                 Signal
                                                                                                                                                                                                                                                                                                                                                   use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ma Y.J., Costa M.E., Ojeda S.R.;
"Developmental expression of the genes encoding transforming grofactor alpha and its receptor in the hypothalamus of female rhes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE~95124501; PubMed=7545971;
Ma Y.J., Costa M.E., Ojeda S.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GNRH1 OR GNRH OR LHRH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GON1_MACMU
                                                                                                            Cleavage on
                                                                                                                                             PROSITE;
                                                                                                                                                                           PFAM;
                                                                                                                                                                                                                                 EMBL; S75918; AAB33096.1;
                                                                                                                                                                                                                                                                                          or send an
                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE=HYPOTHALAMUS;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: BELONGS TO THE GNRH FAMILY.
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                                                                                                                                             PF00446; GnRH; 1.
TE; PS00473; GNRH;
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                                                                                                                                                                                                      IPR002012;
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                                                                                                                  residues;
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BY SIMILARITY. PROGONADOLIBERIN
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                                                                                                                  Hormone; Amidation; Hypothalamus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               to:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                           PO1148;
21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 07, Last sequence update)
01-APR-1988 (Rel. 07, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [COMPAINS: GONADOLIBERIN I (LHRH I)
PROGONADOLIBERIN I PRECURSOR [COMPAINS: GONADOTROPIN RELEASING
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      documentation_block:
                                                                                                                                                            Adelman J.P., Mason A.J., Hayflick J.S., Seeburg
"Isolation of the gene and hypothalamic cDNA for
of gonadotropin-releasing hormone and prolactin
factor in human and rat.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEPTIDE
PEPTIDE
                                                           releasing hormone.";
Nature 311:666-668(1984).
                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDLINE=86094338; PubMed=2867548;
                                                                                                                                                                                                                                                                              MEDLINE=89366682; PubMed=2671939;
Hayflick J.S., Adelman J.P., Seeb
                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                                 GNRH1 OR GNRH OR LHRH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              117
                                                                           "Characterization of cDNA releasing hormone.":
                                                                                               Seeburg P.H.,
                                                                                                          SEQUENCE FROM N.A. MEDLINE-85012739;
                                                                                                                                                                                                                                            Nucleic Acids Res.
                                                                                                                                                                                                                                                         hormone
                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                         MEDLINE=83126573;
                                     SEQUENCE OF 24-33.
                                                                                                                                               Proc. Natl.
                                                                                                                                                          factor
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   chemical
                                                                                                                                                                                                                                                                   complete nucleotide sequence
                                                                                                                                            in human and rat.
Watl. Acad. Sci. U
                                                                                                                                                                                                                                                       gene."
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identity of the immunoreactive LHRH-like peptide
                                                                                                Adelman
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4.500
89.474
                         PubMed=6760865;
                                                                                                            PubMed=6090951;
                                                                                                                                                                                                                                           17:6403-6403(1989)
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                                                                                 for precursor of human luteinizing hormone
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quence of
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ACTIVITY (BY SIMILARITY),
PYRROLIDONE CARBOXYLIC AC
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SIMILARITY).
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                                                                                                                                                                                                                                                                  the human
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                                                                                                                                                                             Seeburg P.H.;
DNA for the common
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                                                01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
30-AAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOD_RES
MOD_RES
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  GNRH1 OR GNRH
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Biochem. Biophys. Res. Commun. 109:1061-1071(1982).
-!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
                                     HORMONE I) (GNRH I) (LULIBERIN I);
                                                                                                                                                                                                                                                                                                                         117 CCAAGAT 123
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PEPTIDE
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or send an email to license@isb-sib.ch).
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SL; X12578; AAA35916.1; -
SL; X15215; CAA33285.1; -
SCA01410; RHHUG.
SCA01410; A26173; A2617
                                                                                                                                                                                                                                                                               sArgAsp
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TE; PS00473; GNRH; 1.
age on pair of basic
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GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE I
APPEARS TO BE ESSENTIAL E
ACTIVITY.
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             \Mammalia;
                                                                         01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLLIBERIN I PRECURSOR [CONTAINS: GONADOLLIBERIN I (LH
[LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN REL
HORMONE I) (GURH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Placenta;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mason A.J., Hayflick J.S., Zoeller R.T., Young W.S. III, phillips H.S., Nikolics K., Seeburg P.H.;
"A deletion truncating the gonadotropin-releasing hormone responsible for hypogonadism in the hpg mouse.";
Science 234:1366.1371(1986).
                                                                 GNRH1 OR GNRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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                                      Sus scrofa (Pig).
Eukaryota; Metazoa;
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PEPTIDE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the European Bioinformatics Institute.
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SEQUENCE FROM N.A
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                        Eutheria;
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AMIDATION (G-32 PROVIDE AMIDE GROUP)

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PROLACTIN RELEASE-INHIBITING
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                           Euteleostomi, Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FOR
                                                                         [ (LHRH I) | RELEASING | IDE I].
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seq_documentation_block:
ID GON1_RAT STAN
                                                                                                                                              alignment_block:
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                                   seq_name: SwissProt_39:GON1_RAT
                                                                                                         Align seg 1/1
                                                                                                                                  US-09-306-689-10 x GON1_PIG
                                                                                                                                                                      Percent Similarity:
                                                                                                                                                                                                                                         MOD_RES
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=72114303; PubMed=4946067;
Baba Y., Matsuo H., Schally A.V.;
"Structure of the porcine LH- and FSH-releasing hormone.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (MAY-1994) to [2]
                                                                                                                                                                                                                                                                                                                            CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       use by non-profit institutions as long modified and this statement is not removed.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=72117544; PubMed=4946275; Baba Y., Arimura A., Schally A.V.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=72065376; PubMed=4942726;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYNTHESIS OF GONADOLIBERIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 analyses
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=HYPOTHALAMUS;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           phase method.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matsuo H., Arimura A., Nair R.M.G., Schally A.V. Synthesis of the porcine LH- and FSH-releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biochem.
                                                                                                                                                                                                                                                                                         ACT_SITE
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                                                          the tryptophan
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the tryptophan residue in porcine LH and FSH-releasing hormone."; hem. Blophys. Res. Commun. 45:483-487(1971). FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES THE SECRETION OF GONADOTROPINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HORMONES
                                                                                                                                                                                                                                                                                                                                                                                        PF00446; GnRH;
                                                                                                                                                                                           Quality:
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                                                                                                                                                                                                                                                                                         GNRH-ASSOCIATED PEPTIDE APPEARS TO BE ESSENTIAL
                                                                                                                                                                                                                                                                                                               PROGONADOLIBERIN I. GONADOLIBERIN I.
                                                                                                                                                                                                                                           AMIDATION (G-34 PROVIDE AMIDE GROUP). 8340474F32DDAA99 CRC64;
                                                                                                                                                                                                                                                                               ACTIVITY
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STANDARD;

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                                                                                                                                                                                                                                                                                                                                                                Science
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.

MEDLINE=89384661; PubMed=2476669;
Bond C.T., Hayflick J.S., Seeburg P.H., F.

"The rat gonadotropin-releasing hormone:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.; "Isolation of the gene and hypothalamic cDNA for the common precursor of gonadotropin-releasing hormone and prolactin release-inhibiting factor in human and rat.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-APR-1988 (Rel. 07, Created)
01-APR-1988 (Rel. 07, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
01-OCT-2000 (Rel. 40, Last annotation update)
PROGONADOLLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GNRH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING FZ
                                                                                                EMBL; M15528; -; NOT_ANNOTATED_CDS
PIR; B26173; RHRTG.
PIR; A48410; A48410.
                                                                                                                                                                                                                         entities
                                                                                                                                                                                                                                  modified and this statement
                                                                                                                                                                                                                                                the European Bioinformatics Institute. Thuse by non-profit institutions as long
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Cell. Mol. N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Maier C.C.,
"Thymocytes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=THYMUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
MEDLINE-86094338; PubMed-2867548;
                                                                                                                                                                           EMBL;
                                                                                                                                                                                      EMBL;
                                                                                                                                                                                                               or send
                                                                                                                                                                                                                                                                                                            -!- TISSUE SPECIFICITY: CENTRAL NERVOUS SYS
                                                                                                                                                                                                                                                                                                                                                                                       DNA locus."
                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=87149087; PubMed=3547652;
                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-HEART
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 1-47 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE-93105480; PubMed-1468115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mammalia;
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01-APR-1988
                                                   Cleavage
                                                                          PFAM; PF00446; GnRH;
                                                                                       INTERPRO; IPR002012; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hypothalamic expression
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                              ence 235:1514-1517(1987).
FUNCTION: STIMULATES THE SECRETION
THE SECRETION OF BOTH LUTEINIZING I
                                                                                                                                   S50870: AAB24572.1;
M12579: AAAA41263.1;
J. M31670: AAAA4264.1;
J. M15527: AAA42141.1;
J. M15529: AAA42139.1;
                                                                                                                                                                                                                                                                                                                                       HORMONES
                                                                                                                                                                                                                                                                                                                                                                                               man J.P., Bond C.T., Douglass mammalian genes transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Endocrinol.
                        e on pra.
                                                                                                                                                                                                              an email to license@isb-sib.ch).
                                                                                                                                                                                                                         requires a
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Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Neurobiol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Marchetti B., Leboeuf R.D., Blalock express a mRNA that is identical to hormone-releasing hormone mRNA."; Neurobiol. 12:447-454(1992).
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                                                  of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3:1257-1262(1989).
                                                               GNRH;
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                                                NRH; 1.
basic
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                                                  residues;
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PROGONADOLIBERIN GONADOLIBERIN I.
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                                                  Hormone; Amidation;
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hypothalamic
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; Murinae; Rat
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Signal; Repeat; Copulatory

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SEMINAL VESICLE SECRETORY PROTEIN PYRROLIDONE CARBOXYLIC ACID.

13 X 13 AA TANDEM REPEATS.

IPR002080;

INTERPRO;

EMBL;

J05443; AAA42192.1;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Structural characterization protein and gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matusik R.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A., AND PARTIAL MEDLINE-90277684; PubMed-2351680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-AUG-1991 (Rel. 19, Last sequence update)
01-FEB-1994 (Rel. 28, Last annotation update)
SEMINAL VESICLE SECRETORY PROTEIN II PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-AUG-1991 (Rel. 19, Created)
01-AUG-1991 (Rel. 19, Last seq
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Harris S.E., Harris M.A., Johnson C.M., Matusik R.J., Carr S.A., Crabb J.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mammalia; Eutheria; Rodentia;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BIOL. Chem. 265:9896-9903(1990).

BIOL. Chem. 265:9896-9903(1990).

FUNCTION: THE RAT SEMINAL VESICLE CONTAINS SIX MAJOR ANDROGEN-.

DEPENDENT SECRETORY PROTEINS REFERRED TO AS SVS I-VI. THE SVS

I-III PROTEINS APPEAR TO BE COMPONENTS OF THE RAT COPULATORY

PLUG, WITH THE SVS II PROTEIN BEING THE MAJOR COMPONENT.

PTM: THE REPEATING UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE FORMATION OF THE COPULATORY PLUG UNIT APPEARS TO BE INVOLVED IN THE PROTEIN BELIAR PLUG UNIT APPEARS TO BE INVOLVED IN THE PROTEIN BELIAR PLUG UNIT APPEARS TO BE INVOLVED IN THE PROTEIN BELIAR PLUG UNIT APPEARS TO BE INVOLVED IN THE PROTEIN BELIAR PLUG UNIT APPEARS TO BE INVOLVED IN THE PROTEIN BELIAR PLUG UNIT APPEARS TO BE INVOLVED IN THE PROTEIN BELIAR PLUG UNIT APPEARS TO BE INVOLVED IN THE PROTEIN BELIAR PLUG UNIT APPEARS TO BE INVOLVED IN THE PROTEIN BELIAR PLUG UNIT APPEARS TO BE INVOLVED IN THE PROTEIN BELIAR PLUG UNIT APPEARS TO BE INVOLVED IN THE PROTEIN BELIAR PLUG UNIT 
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5.692
92.857
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alignment_block:
US-09-306-689-10 x SVS2_RAT
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FUS_MOUSE STAN
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01-OCT-2000
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REPEAT
SEQUENCE
            EMBL; AF224264; AAF70602.1; MGD; MGI:1353633; FUS.
                                             use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entitles requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                  Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.

-!- FUNCTION: BINDS BOTH SINGLE-STRANDED AND DOUBLE-STRANDED DNA AND PROMOTES ATP-INDEPENDENT ANNEALING OF COMPLEMENTARY SINGLE-STRANDED DNAS AND D-LOOP FORMATION IN SUPERHELICAL DOUBLE-STRANDED DNA. MAY PLAY A ROLE IN MAINTENANCE OF GENOMIC INTEGRITY (BY SIMILARITY).
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REPEAT
REPEAT
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                                                                                                 the European Bioinformatics Institute.
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PROSITE;
                                                                                                                 between
                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
Alappat S.R., Zhang M., Zhao X., Alliegro M.A., Alliegro
                                                                                                                                                                                                                                                                                                                                                                            Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                  RNA-BINDING
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                                                                                                                                                                                                                                                                                                                                                                Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus (Mouse)
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                                                                                                                                                                                                                                                                                              Regulation of pigpen expression in mouse embryos.";
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                                                                                                                                                    SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
SIMILARITY: CONTAINS 1 RNA RECOGNITION MOTIF (RRM).
SIMILARITY: BELONGS TO THE TET FAMILY OF RNP PROTEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerPheGlyGlnMetLysSerSerGlySerGlnValLysSerPheGlyGl 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCTACGGCCTGCCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCT
                                                                                                                                                                                           SUBUNIT: COMPONENT OF NUCLEAR RIBOPROTEIN COMPLEXES SIMILARITY).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCA 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lnGlyGlyGlnLeuGlnSerTyrGly 225
                                                                                                              SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SwissProt_39:FUS_MOUSE
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                                                                                                                                                                                                                                                                                                                                                                            Metazoa;
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(Rel. 40, Last sequence update)
(Rel. 40, Last annotation update)
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Rodentia;
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Sciurognathi;
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SEQUENCE
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DOMAIN
                                                                                                                                                "A C-terminal carbohydrate-binding domain in the endothelial cell regulatory protein, pigpen: new function for an EWS family member."; Exp. Cell Res. 255:270-277(2000).
                                                                                                                                                                                                        CARBOHYDRATE BINDING DOMAIN.
MEDLINE=20160719; PubMed=10694442;
Alliegro M.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1997
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q28009;
01-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     130 lyTyrGlyGlnGlnSerGlyTyrGlyGlyGlnGlnGlnSerTyrGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          115 ....GlyGlySerSerGlnSerSerSerTyrGlyGlnProGlnSerGlyG 130
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                                                                                                                                                                                                                                                              Alliegro M.C., Alliegro M.A.;
"A nuclear protein regulated during the transition
quiescent phenotype in cultured endothelial cells."
Dev. Biol. 174:288-297(1996).
                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                              RNA-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FUS_
                                                                                                                                                                                                                                                                                                                                     TISSUE=AORTA;
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                                                                                                                                                                                                                                                                                                                                                                                                                   Bos taurus (Bovine)
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                                                                                                                                                                                                                                                                                                                      MEDLINE=96175600; PubMed=8631501;
                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13 TACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCG
             SUBCELLULAR LOCATION: NUCLEAR, EXHIBITS DIFFUSE STAINING THROUGHOUT (EXCLUDING NUCLECLI), TOGETHER WITH A SMALL N INTENSELY STAINED FOCAL POINTS, OR GRANULES, AND PUNCTAT ALONG THE NUCLEAR ENVELOPE.
                                                                 SUBUNIT: COMPONENT OF SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ..TACGGCCTGCGCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGC 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCGGGTGGCTCTAGCCAGCATTGGAGC..........
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                                                                                                                       PROMOTES ATP-INDEPENDENT ANNEALING OF COMPLEMENTARY SINGLE-STRANDED DNAS AND D-LOOP FORMATION IN SUPERHELICAL DOUBLE-STRANDED
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                                                                                            SIMILARITY)
                                                                                                         DNA. MAY PLAY A ROLE
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Ratio:
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(Rel. 35, Last sequence update)
(Rel. 40, Last annotation update)
PROTEIN FUS (PIGPEN PROTEIN).
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ARG/GLY-RICH.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           :-TYPE (POTENTIAL).
E06F231BFEED78D6 CRC64;
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                                                                                RIBOPROTEIN COMPLEXES
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PUNCTATE STAINING
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THE C-TERMINAL DOMAIN BINDS CARBOHYDRATES

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alignment_block:
US-09-306-689-10
                                                                                                                                                                                                                                                     seq_name: SwissProt_39:FUS_HUMAN
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                                                                                                                                                                                                                              _documentation_block:
                                                                                                                                                      01-JUN-1994
01-JUN-1994
01-OCT-2000
RNA-BINDING
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ZN_FING
SEQUENCE
Nature
[2]
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PROSITE; PS50102; RRM; 1.
PROSITE; PS00030; RRM_RNP_1; FALSE_NEG.
PROSITE; PS00030; RRM_RNP_1; FALSE_NEG.
PROSITE; PS00030; RRM_RNP_1; FALSE_NEG.
                                Crozat A., Aman P., Mandahl N., Ron D. "Fusion of CHOP to a novel RNA-binding
                                                                                              Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Metal-binding.
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PFAM; PF00076; rrm; 1.
PFAM; PF00641; zf-RanBP;
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                                                        SEQUENCE FROM N.A. (LONG ISOFORM) MEDLINE-93288139; PubMed=8510758;
                                                                                                                                           LIPOSARCOMA PROTEIN)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       modified and this statement is not removed.
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                       liposarcoma.
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                                                                                                                                 OR TLS.
                                                                                                                                                                                                                 HUMAN
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by non-profit institutions as long as its content
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                                                                                                                    sapiens (Human)
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Ratio:
            363:640-644(1993)
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(Rel. 29, Last sequence update)
(Rel. 40, Last annotation update)
PROTEIN FUS (ONCOGENE FUS) (ONCOGENE T
PROTEIN) (POMP75) (75 KDA DNA-PAIRING
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3652329C044F1386 CRC64;
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ARG/GLY-RICH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GLN/GLY/SER/TYR-RICH GLY-RICH.
                                                                                             Craniata; Vertebrata;
Catarrhini; Hominidae;
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                                   'n
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PROTEIN).
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Homo.
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1. TISSUE SPECIFICITY: UBIQUITOUS.

2. INTERNATIVE PRODUCTS: 2 ISOFORMS; A LONG ISOFORM (SHOWN HERE)

2. ALTERNATIVE PRODUCTS: 2 ISOFORMS; A LONG ISOFORM SHOWN HERE)

3. ALTERNATIVE SPECIFICITY.

3. ALTERNATIVE SPORM OF MALIGNAM T MY ON THE SPAIR TOWN OF MALIGNAM T MY ON THE SPAIR TOWN OF MALIGNAM T MY ON THE SPAIR TOWN OF MALIGNAM T MY ON THE TOWN OF MALIGNAM T MY ON THE SPAIR TOWN OF MALIGNAM T MY ON THE TOWN OF THE TOWN OF MALIGNAM T MY ON THE TOWN OF THE TOWN OF MALIGNAM T MY ON THE TOWN OF THE TOWN OF THE TOWN OF MALIGNAM T MY ON THE TOWN OF THE TO
                                                                                                                                                                                                                                                    EMBL; S62140; AAB27102.1; -.
EMBL; S62138; AAB27103.1; ALT_SEQ.
EMBL; X71427; CAA50558.1; ALT_SEQ.
EMBL; X71428; CAA50559.1; ALT_SEQ.
EMBL; AF071213; AAC35285.1; -.
EMBL; AF071213; AAC35284.1; -.
PIR; S33799; S33799.
HSSP; P09651; 1HA1.
MIM; 137070; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        use by non-profit institutions as long a modified and this statement is not removed.
  Metal-binding.
                                         PROSITE; PS50102; RRM; 1.

PROSITE; PS00030; RRM_RNP_1; FALSE_NEG.

Proto-oncogene; RNA-binding; DNA-binding; Nuclear protein; Repeat;

Alternative splicing; Chromosomal translocation; Zinc-finger; Zinc
                                                                                                                                     INTERPRO; IPRO00504; -.
INTERPRO; IPRO01876; -.
PFAM; PF00076; rrm; 1.
PFAM; PF00641; 2f RanBP;
                                                                                                                                                                                                                                 MIM; 151900;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Human 75-kDa DNA-pairing protein is i TLS/FUS and is able to promote D-loop J. Biol. Chem. 274:34337-34342(1999).
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Munakata N., Ohki M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (LONG AND SHORT MEDLINE-99013873; PubMed=9795213; Morohoshi F., Ootsuka Y., Arai K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Fusion of the dominant negative transcription novel gene FUS by translocation t(12:16) in mal Nat. Genet. 4:175-180(1993).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3799; PubMed=8187069;
Shimizu K., Hayashi Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PubMed=10567410;
  165
GLN/GLY/SER/TYR-RICH
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\begin{array}{c} se_{Q}\\ colored\\ colore
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                seq_name:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Align seg 1/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-306-689-10 x
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
DOMAIN
DOMAIN
ZN_FING
SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VARSPLIC
CONFLICT
SEQUENCE
                        Sherwood N.M.;
Primary structure of
                                                              TISSUE-PITUITARY;
MEDLINE-95372591; PubMed=7644702;
Powell J.F.F., Fischer W.H., Park
White S.A., Francis R.C., Fernald
                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.

MEDLINE=95396797; PubMed=7667296;

White S.A., Kasten T.L., Bond C.T., Adelman J.P.

"Three gonadotropin-releasing hormone genes in o
novel roles for an ancient peptide.";

Proc. Natl. Acad. Sci. U.S.A. 92:8363-8367(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Verte
Actinopterygii; Neopterygii; Teleostei; Eutel
Acanthomorpha; Acanthopterygii; Percomorpha;
Cichlidae; Astatotilapia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P51918: 093387;
01-0CT-1996 (Rel. 34, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          116
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                                                                                                                                                                                                                                     midbrain."
                                                                                                                                                                                                                                                             reveals a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GNRH1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GON1_HAPBU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            101
  (GnRH)
                                                                                                                                                                 SEQUENCE OF 23-32.
                                                                                                                                                                                                                                                                                   "Ontogeny
                                                                                                                                                                                                                                                                                                      White R.B.,
                                                                                                                                                                                                                                                                                                                            MEDLINE=99061842; PubMed=9843638
                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Haplochromis burtoni
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (LH-RH I)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13 TACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCGGGTGGCTCTAGC......CAGCATTGGAGCTACGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TyrGlyGlnGlnProAlaProSerSerThrSerGlySerTyrGlySerSe
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!nProSerTyrGlyGlyGlnGlnGlnSerTyrGly
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Ratio:
  'n
                                                                                                                                                                                                                                                        of gonadotropin-releasing hormone (GnRH) gene expression distinct origin for GnRH-containing neurons in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (LULIBERIN I).
cichlid pituitary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            to:
                                                                                                                                                                                                             Endocrinol.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            166
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUS_HUMAN
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2.464
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                                                                                                                                                                                                                                                                                                        R.D.;
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                          solitary
                                                                                                                                                                                                             112:322-329(1998)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            from:
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C4-TYPE (POTENTIAL).

BREAKPOINT FOR TRANSLOCATION T
FUS/TLS-CHOP ONCOGENE.

TG -> S (IN SHORT ISOFORM).

T -> N (IN REF. 4).
  three
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RNA-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                        form of gonadotropin-releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     88C8E263B7905549 CRC64;
                                                                   M., Craig A.G., R.D., Licht P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Identity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            to:
  torms
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Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vertebrata;
Euteleostei;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 144
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  of GnRH
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40.000
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  ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fernald R.
                                                                                           Rivier J.E.,
                                                                   Warby
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HORMONE
                                                                                                                                                                                                                                                                                                                                                                                                                                               organism
brain of cichlid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Neoteleostei
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                                                                     c.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Labroidei;
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                          hormone
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alignment_block:
                                                                                                                                                                                                                                                                            seq_name:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      alignment_scores:
                                                                                                                                                                                                                                                                                                                                                                                                                      Align seg
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
                                                                                                                                                                                                                                               documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PEPTIDE
PEPTIDE
MOD_RES
MOD_RES
CONFLICT
SEQUENCE
MEDLINE=92077276; PubMed=1743395;
Livingston B.T., Shaw R., Bailey A., Wilt F.;
"Characterization of a cDNA encoding a protein involved in
of the skeleton during development of the sea urchin Lytech
                                                                                                                                                          15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
34 KDA SPICULE MATRIX PROTEIN PRECURSOR (LSM34).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        between the Swiss Institute of Bioinformatics and the EMBL outsi
the European Bioinformatics Institute. There are no restrictions
use by non-profit institutions as long as its content is in
modified and this statement is not removed. Usage by and for con
                                                                                                                    Eukaryota; |
Echinoidea;
                                                                                                                                                                                                                                   SM34_LYTPI
                                                                                                                                                                                                                                                                                                                                   114 TAGCCAAGAT 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Signal; Multigene SIGNAL 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; U31865; AAC59691.1; -. EMBL; AF076961; AAC27716.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GONADAL AXIS:

TISSUE SPECIFICITY: SYNTHESIZED IN PREOPTIC NEURONS AND I
TRANSPORTED TO THE PITUITARY IN THE PREOPTIC-HYPOPHYSEAL

THE PREOPTIC-HYPOPHYSEAL

THE PREOPTIC-HYPOPHYSEAL

THE PREOPTIC HEADS AND I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and pumpkinseed fish.";
Regul. Pept. 57:43-53(1995)
                                                           TISSUE=GASTRULA;
                                                                         SEQUENCE FROM N.A.
                                                                                                                                               Lytechinus
                                                                                                                                                                                                                      205904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cleavage on pair of basic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a
                                                                                                     Lytechinus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INTERPRO; IPR002012; PFAM; PF00446; GnRH;
                                                                                                                                                                                                                                                                                                        33
                                                                                                                                                                                                                                                                                                                                                               18 ProGlnGlyCysCysGlnHisTrpSerTyrGlyLeuSerProGly...Gl
                                                                                                                                                                                                                                                                                                                                                                                          CCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCCCCTGGCAGCGG 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY: BELONGS TO THE GNRH FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS. MAY BE RESPONSIBLE FOR THE REGULATION OF THE HYPOTHALAMIC-PITUITARY-
                                                                                                                                                                                                                                                                                                        yLysArgAsp
                                                                                                                                                                                                                                                                            SwissProt_39:SM34_LYTPI
                                                                                                                                                                                                                                                                                                                                                                                                                      1/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Quality:
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23
23
36
23
23
32
86
86
                                                                                                                                 Metazoa;
                                                                                                                                            pictus (Painted sea urchin)
                                                                                                                    Euechinoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                      GON1_HAPBU
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GON1_HAPBU
                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            68.50
4.567
75.000
                                                                                                                    Echinodermata; Eleutherozoa; Echinozoa; 
pidea; Echinacea; Temnopleuroida; Toxopn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10382
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94
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23
32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent
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                                                                                                                                                                                                                                                                                                                                                                                                                        from:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GONADOLIBERIN I.

GONADOLIBERIN I.

GNRH-ASSOCIATED PEPTIDE I (POTE
PYRROLIDONE CARBOXYLIC ACID.

ANIDATION (G-33 PROVIDE AMIDE G
ENGHRTFKK -> KMDTGHSRNERFL (IN :
E57DBA83333278D7 CRC64;
                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROGONADOLIBERIN
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Gaps:
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                                                                                                                  Temnopleuroida;
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    urchin Lytechinus
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1
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                                                                                                                    Toxopneustidae;
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                   tormation
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no
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seq_name: SwissProt_39:GON1_XENLA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Align seg 1/1 to: SM34_LYTPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-306-689-10 x SM34_LYTPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
                                                                                                                                                                                                                                                     documentation_block:
                                                                                        (LH-RH) (LULIBERIN I).
Xenopus laevis (African clawed frog).
Xenopus laevis (African clawed frog).
Eukaryota, Metazoa; Chordata; Cranlata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                      01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pictus.";
Dev. Biol.
                                SEQUENCE FROM N.A. TISSUE-FOREBRAIN;
                                                                                                                                                                                                                                                                                                                   237
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entities requires a license agreement (See http://www.isb-sib.ch/announce/
or send an email to license@isb-sib.ch).
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                MEDLINE-94185563; PubMed-8137750;
                                                                                                                                                                                                                                      GON1_XENLA
                                                                                                                                                                                                                                                                                                                                                                            220 nProGlyPheGlyGlyGlnGlnProGlyPheGlyGlnGlnProGlyPheG
                                                                                                                                                                                                                                                                                                                                                                                                                                          204 GlyGlnGlnProGlyPheGlyGlyGlnGlnProGlyPheGlyGlyArgGl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matrix protein; Signal; Repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS00615; C_TYPE_LECTIN_1; FALSE_NEG PROSITE; PS50041; C_TYPE_LECTIN_2; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; X59616; CAA42179.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INTERPRO; IPRO01304;
                                                                                                                                                                                                                                                                                                                                                                                                              64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGT..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GROWTH IN OTHERS.
SUBCELLUAR LOCATION: SECRETED.
TISSUE SPECIFICITY: EMBRYO SPICULE.
DOMAIN: THE REPETITIVE DOMAIN MAY PROVIDE A CALCITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            . Biol. 148:473-480(1991).

FUNCTION: MAJOR MATRIX PROTEIN OF THE SEA URCHIN EMBRYO SPICULE WHICH DIRECTS CRYSTAL GROWTH IN CERTAIN ORIENTATIONS AND INHIBIT
                                                                                                                                                                                                                                                                                                                                             GTAGCCAAGATTGGAGCTACGGCCTGCGT...CCGGGT 147
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                                                                                                                                                                                                                                                                                                                 lyGlyArgGlnProGlyPheGlyGlyArgGlnProGly
                                                                                                                                                                                                                                                                                                                                                                                                             .CCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCG
 W.P.,
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Wray S.,
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Gaps: 2
Percent Identity: 39.130
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C-TYPE LECTIN.
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seq_name: SwissProt_39:ISOA_PSEAY
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MOD_RES
MOD_RES
MEDLINE=91064385; PubMed=2248978; Chen J.H., Chen Z.Y., Chow T.Y., Che "Nucleotide sequence and expression
                                                                                                                                                                                                                      01-MAR-1989 (Rel. 10, 15-DEC-1998 (Rel. 37, 15-DEC-1998 (Rel. 37,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHAIN
PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
           MEDLINE=91064385;
Chen J.H., Chen Z.
                                                                        Amemura A., Chakraborty R., Fujita M., N
"Cloning and nucleotide sequence of the
"Eseudomonas amyloderamosa SB-15.";
J. Biol. Chem. 263:9271-9275(1988).
                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                         Bacteria;
                                                                                                                                                                                    Pseudomonas
                                                                                                                                                                                                 IAM.
                                                                                                                                                                                                                                                            P10342
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SIGNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Endocrinology 134:1835-1844(1994).
-!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    metamorphosis."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "The frog gonadotropin-releasing hormone-I (GnRH-I) gene mammalian-like expression pattern and conserved domains
                                                 SEQUENCE FROM N.A.
                                                                                                                       MEDLINE=88243808; PubMed=3379068;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE;
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                                                                                                                                                                                                                                                                      ISOA_PSEAY
                                                                                                                                                                                                                                                                                                                                  23 AlaGlnHisTrpSerTyrGlyLeuArgProGly...GlyLysArgAsp
                                                                                                                                                                                                                                                                                                                                             SIMILARITY: BELONGS TO THE GNRH FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PF00446; GnRH; 1.
FE; PS00473; GNRH; 1.
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                                                                                                                                                                      Proteobacteria
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                                                                                                                                                                                                             PRECURSOR
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Last sequence update)
Last annotation update)
(EC 3.2.1.68).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AMIDATION (G-34 PROVIDE AMIDE GROUP) 6F4F36FBAE0D4284 CRC64;
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Chen J.C., Tan S.T., ion of the isoamylase
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           Hsu W.H.;
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alignment_block:
US-09-306-689-10 x ISOA_PSEAY
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Quality:
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                                                                                                                           Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                resolution.;
J. Mol. Biol. 281:885-897(1998).
i- CATALYTIC ACTIVITY: HYDROLYSIS OF 1,6-ALPHA-D-GLUCOSIDIC BRANCH
LINKAGES IN GLYCOGEN, AMYLOPECTIN AND THEIR BETA-LIMITS DEXTRIN:
i- INDUCTION: BY MALTOSE.
FAMILY 13 OF GLYCOSYL HYDROLASES, ALSO
SELONGS TO FAMILY 13 OF GLYCOSYL HYDROLASES, ALSO
KNOWN AS THE ALPHA-AMYLASE FAMILY. ISOAMYLASE SUBFAMILY.
KNOWN AS THE ALPHA-AMYLASE FAMILY.
                                                                                                                                                                                                              CONFLICT
CONFLICT
SEQUENCE
544 TyrSerCysAsnGlyAlaAsnAsnSerGlnAlaTrpProTyrGlyProSe 560
                                                                                                                                                                                                                                                                                                                              CONFLICT
                                                                                                                                                                                                                                                                                                                                                                     DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                              ACT_SITE
ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE-89327147; PubMed=2753857;
Amemura A., Fujita M., Futai M.;
"Transcription of the isoamylase gene (iam) in Pseudomonas amyloderamosa SB-15.";
J. Bacteriol. 171:4320-4325(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biochim.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PIR; A28109; A28109.
PDB; 1BF2; 12-AUG-98.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 744-776 FROM N.A. STRAIN=SB-15;
                                                                                                                                                                                                                                                                                                                                                         CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hydrolase;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       resolution.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Three-dimensional structure of Pseudomonas isoamylase at 2.2-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  x-ray Crystallography (2.0 angstroms).
MEDLINE=98387895; PubMed=9719642;
                  13 TACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCG
                                                                                                                                                                                                                                                                                                                 CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                   DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PFAM; PF00128; alpha-amylase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       isoamylase-hyperproducing mutant, Pseudomonas amyloderamosa JD210.";
iochim. Biophys. Acta 1087:309-315(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              [NTERPRO;
                                                                                                                                          Ratio:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IPR000461;
                                                          to:
                                                                                                                                                                                                              555
650
776 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glycosidase;
                                                                                                                                                                                                                                                                                                                                                                                  27
401
481
536
410
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2.750
64.865
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657 A
83626 MW;
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776
401
481
536
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                                                                                                                           Gaps:
Percent Identity:
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F -> C (IN REF. 1).

GAS -> AH (IN REF. 1).

L -> V (IN REF. 1).

GAYT -> AVH (IN REF. 1).

SGLDLFAEPWAIGGNSYQLGGFPQGWSEWNGLFRDS ->

TVWICLRNLGPSAATRTSWVDSRRVVRVEWSVPRQ (IN
                                                           from: 1
                                                                                                                                                                                                                                           REF. 1).
WP -> S (
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AFRKAHPA -> RSARHIP (IN REF. 1).
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Y SIMILARITY.
Y SIMILARITY.
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35.135
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63 TCCGGGTGGCTCTAGCCAGCAT.....TGGAGCTACGGCCTGCGCCCCTG 106
|||||:::||| ::: |||::: |||::: ||
560 rAspGlyGlyThrSerThrAsnTyrSerTrpAspGlnGlyMetSerAlaG 577
107 GCAGCGGTAGC 117
||:::|||:::
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of: US-09-306-689-10

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PIR_66:*

out_format :

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pir2:T50739
pir2:T00975
pir2:A43900
pir2:T44768
pir2:T54473
pir2:T04776
pir2:T04776
pir2:A58519
pir2:A38919
pir2:A37035
pir2:A37035
pir2:A37035
pir2:A37035
pir2:A37035
pir2:H3667
pir2:T1349
pir1:RHFGG
pir1:RHFGG
pir1:RHFGG
pir2:T37218
                                                                                                                                                                                                                                                                                                                                                                        pir2:A36443
pir2:T16933
pir4:S33798
pir1:S33798
pir1:S33799
pir2:T31617
pir2:T50739
pir2:T00975
                          pir2:T29068
pir2:S02262
pir1:FDFL4W
pir2:F75524
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Sequence
pir2:A27263
pir2:I78541
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Database length: 67900655
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-Q-/cgn2_1/USPTO_spool/US03906689/runat_02032001_102825_9560/app_query.fasta_1.2389
-DB=p1R_66 -QFMTF-fastan -SUFFIX-ryr -GAPOD=12.000 -GAPEXT=4.000
-MINMATCH=0.100 -LOOPCL=0.000 -LOOPEXT=0.000 -GGAPOD=4.500
-QGAPEXT=0.050 -XGAPOD=10.000 -XGAPEXT=0.000 -FGAPOD=6.000
-FGAPEXT=7.000 -YGAPOD=10.000 -XGAPEXT=0.500 -DELOP=6.000
-DELEXT=7.000 -YGAPOD=10.000 -YGAPEXT=0.500 -DELOP=6.000
-DELEXT=7.000 -START=1 -MATRIX=blosum62 -TRANS=human40.cd1
-LIST=45 -DOCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0
-ALIGN=15 -MODE=LOCAL -OUTFMT=pfs -NORN=ext -MINLEN=0
-MAXLEN=20000000000 -USER=GS0930689 eCGN1_1_370 -NCPU=6 -ICPU=3
-LONGLOG -NO_XLPXY -WAIT -THREADS=1
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                                                                                                                                                                        hypothetical protein F10M10.70
hypothetical 345 protein - Stre
phosphatidylinosito1-4-phosphat
isoamylase (EC 3.2.1.68) precur
isoamylase (EC 3.2.1.68) precur
isoamylase (EC 3.2.1.68) precur
isoamylase (EC 3.2.1.68) precur
hypothetical protein T2C1.7-
peroxinectin-like protein (clon
                                                ATP-dependent RNA helicase-like i hypothetical protein SC2H4.02 hypothetical protein F1715.120 probable aldehyde dehydrogenase calcium-binding protein calphot calphotin - fruit fly (Drosophi ferredoxin protein NapF PA1176 hypothetical protein SC1C2.19c plutenin high molecular weight
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Documentation
                                  antifreeze protein 4 precursor
                                                                                                                                                                                                                                                                                                                                spicule matrix protein LSM34 pri
antifreeze glycopeptide AFGP po
gonadoliberin precursor - Africa
                                                                                                                                                                                                                                                                                                                                                                          RNA-binding protein FUS, nuclea i hypothetical protein Y50E8A.m gonadotropin-releasing hormone hypothetical protein T9J22.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gonadoliberin precursor -
gonadoliberin precursor -
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           hypothetical protein - Deinocoo
probable transcription or splic
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hypothetical protein T24D8.5 -
FUS/CHOP mutant fusion protein
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guanylate cyclase (EC 4.6.1.2)
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50K spicule matri
                                                                 C; Accession:
                                                                                                                                                                seq_name:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-445 < KAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Accession: A27263; A49766
R;Sucov, H.M.; Benson, S.; Rol
Dev. Biol. 120, 507-519, 1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Gene: SM50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          seq_name: pir2:A27263
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63.636
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pir2:T32631
pir2:E81033
R;Ma, Y.J.; Costa, M.E.; Ojeda, S.R.
Neuroendocrinology 60, 346-359, 1994
A;Title: Developmental expression of the genes encoding transforming A;Reference number: I58134; MUID:95124501
A;Accession: I78541
                                                                                                                                                                                                             seq_documentation_block:
gonadoliberin precursor - rhesus macaque (fragment)
N,Alternate names: luteinizing hormone releasing hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F;1-15/Domain: signal sequence #status predicted <SIG>F;16-445/Product: 50K spicule matrix protein #status predicted <MAT>F;16-445/Product: 50K spicule matrix protein #status predicted <MAT>F;212-307,321-411/Region: 13-residue repeats (Q-P-G-F/M/W-G-N/G-Q-P-G-V/M-G-G-R)F;411-430/Region: 3-(or 2-)residue repeats (P-N-N or P-N)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: mrna
A;Residues: 1-199, GTSLSANNRAWDKAALVINQAWVGDNQALVINQEWVGDNQALVINQEWEGDNQAGVINPVWVGDN
AGDNQVWEGDNQALVINQVWVGDNQAWVASNRITRITRTTRTTRTTRTTRTTQTPGSTDPVCFKRQTRWHNLSSD' <SUC>
A;Note: this sequence has been corrected in reference A49766
A;Note: this sequence has been corrected in reference A49766
R;Katch-Fukui, Y.; Noce, T.; Ueda, T.; Fujiwara, Y.; Hashimoto, N.; Higashinakagawa.
Dev. Biol. 145, 201-202, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  50K spicule matrix protein precursor - sea urchin (Strongylocentrotus purpu: C;Species: Strongylocentrotus purpuratus (purple urchin) C;Date: 19-Nov-1988 #sequence_revision 12-May-1994 #text_change 17-Mar-1999
                                                                                                                                                           C;Species: Macaca mulatta (rhesus macaque)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Title: The corrected structure of the SM50 spicule matrix protein of Strongylocentr A;Reference number: A49766; MUID:91209669
A;Accession: A49766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Title: A lineage-specific gene encoding A;Reference number: A27263; MUID:87162883 A;Accession: A27263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: GB:M16231; NID:g161560; PID:g161562; GB:M15760
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                                                                                                                                                                                                                                                                                                                                                                         lyGlnGlnProGlyTrpGlyAsnGlnProGly
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Britten, R.J.;
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hypothetical protein F15E6
acetyl-CoA carboxylase, bic
troponin I - fruit fly (Dro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wilt,
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A;Status: preliminary; translat
A;Molecule type: mRNA
A;Residues: 1-67 CRES>
A;Cross-references: GB:S75918;
C;Superfamily: gonadoliberin
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C;Date: 17-Mar-1987 #sequence_revision 21-Jul-1995 #text_change 18-Jun-1999
C;Accession: S05308; A26173; A93342; A90108; A01410; S45718
C;Accession: S05308
R;Hayflick, J.S.; Adelman, J.P.; Seeburg, P.H.
Nucleic Acids Res. 17, 6403-6404, 1989
A;Title: The complete nucleotide sequence of the human gonadotropin-releasing hormone A;Reference number: S05308; MUID:89366682
A;Accession: S05308
                                                                                                                                                                                                                                             Biochem. Biophys. Res. Commun. 109, 1061-1071, 1982
A;Title: The chemical identity of the immunoreactive LHRH-like peptide biosynthesized
A;Reference number: A90108; MUID:83126573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GB:M12578; NID:g183418;
A;Experimental source: hypothalamus
R;Seeburg, P.H.; Adelman, J.P.
Nature 311, 666-668, 1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P. Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic cDNA for A;Reference number: A94090; MUID:86094338
A;Accession: A26173
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                                                       A; Experimental source: placental trophoblasts R; Leibovitz, D.; Koch, Y.; Pitzer, F.; Fridki FEBS Lett. 346, 203-206, 1994
                                                                                                                                                                                                                                                                                                                                                                                               A;Molecule type: mRNA
A;Residues: 1-15,'S',17-92 <SEE>
A;Cross-references: GB:X01059; NID:g34356; PIDN:CAA25526.1; PID:g34357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Title: Characterization of cDNA for precursor of human luteinizing hormone releasing A;Reference number: A93342; MUID:85012739
A;Accession: A93342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: DNA
A; Residues: 1-92 <HAY>
A; Cross-references: EMBL:X15215; NID:931955; PIDN:CAA33285.1;
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A; Title: Sequential degradation of the neuropeptide gonadotropin-releasing A; Reference number: S45718; MUID:94283597
                                                                                                                                                     A; Molecule type: protein A; Residues: 24-33 <TAN>
                                                                                                                                                                                                                                                                                                                                               R;Tan, L.; Rousseau, P.
                                                                                                                                                                                                                                                                                                                                                                            A; Experimental source: placenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: mRNA
A; Residues: 1-92 < ADE>
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                                                                                       Fridkin, M.; Dantes, A.; Baumeister, W.; Amsterda
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                                                                                                                        alignment_scores:
                                Percent Similarity:
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A.Description: gonadoliberin stimulates pituitary secretion of lutropin and follitrop: A.Note: gonadoliberin-associated protein may have prolactin release inhibiting activi. C.Superfamily: gonadoliberin
C.Reywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid
F.1-23/Domain: signal sequence #status predicted <SIG>
F.24-92/Product: progonadoliberin #status predicted <PGN>
F.34-33/Product: gonadoliberin #status experimental <MAT>
F.37-92/Product: gonadoliberin #status experimental <MAT>
F.34-Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experi
F.33/Modified site: amidated carboxyl end (Gly) (amide in mature form from following
A;Description: gonadoliberin stimulates pituitary secretion A;Note: gonadoliberin-associated protein may have prolactin C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; py F;1-23/Domain: signal sequence #status predicted <SIG>F;2-31/Product: gonadoliberin #status predicted <GLB>F;35-90/Product: gonadoliberin #status predicted with predicted site: prolaced carboxyl end; doing to make f;31/Modified site: amidated carboxyl.end (Gly) (amide in make f;31/Modified site: amidated carboxyl.end (Gly)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C:Species: Mus musculus (house mouse)
C:Date: 31-Dec-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C:Accession: A47578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references:
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Title: A deletion truncating the gonadotropin-releasing A; Reference number: A47578; MUID:87069928 A; Accession: A47578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Mason, A.J.; Hayflick, J.S.; Zoeller, R.T.; Science 234, 1366-1371, 1986
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US-09-306-689-10 x RHHUG
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A; Map position: 8p21-8p11.2
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C; Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-90 < MAS>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N;Alternate names: gonadotropin-releasing hormone (GnRH); luteinizing N;Contains: gonadoliberin; gonadoliberin-associated protein (GAP)
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Ratio:
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                                                             predicted <GAP>
mature form) #s
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                                                                                                                                                                                                                                                                                                                                                          of lutropin and for release inhibiting
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                                                                  #status
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Quality: Ratio:

74.00 5.692 92.857

Percent Identity:

14 0 92.857

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A;Description: stimulates pituitary secretion of lutropin and follitropin A;Description: stimulates pituitary secretion of lutropin and follitropin A;Note: gonadoliberin-associated protein may have prolactin release inhibiting activity C;Superfamily: gonadoliberin C;Reywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid; re:1-23/Domain: signal sequence #status predicted <SIG>F:24-92/Product: progonadoliberin #status predicted CPCN>F:24-92/Product: gonadoliberin #status predicted GLN>F:37-92/Product: prolactin release-inhibiting factor #status predicted <PIF>F:37-92/Product: prolactin release-inhibiting factor #status predicted <PIF>F:24/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form from following 91y)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: GB:M12579; NID:g204445; PIDN:AAA41263.1; PID:g204446 R;Maier, C.C.; Marchetti, B; LeBoeuf, R.D.; Blalock, J.E. Cell. Mol. Neurobiol. 12, 447-454, 1992 A;Title: Thymocytes express a mRNA that is identical to hypothalamic luteinizing hormon: A;Reference number: A48410; MUID:93105480 A;Accession: A48410 A;Status: preliminary
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                                                                                                                                                                            us-09-306-689-10 x RHRTG
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A;Experimental source: thymus
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A; Residues: 1-92 <ADE>
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A; Residues: 1-92 <BON>
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N;Alternate names: gonadol
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US-09-306-689-10 x RHMSG
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   GGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGC 108
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alignment_block:
US-09-306-689-10 x T42382
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syltoh, K.; Kawase, M.
submitted to the EMBL Data Library,
A;Reference number: G09199
A;Accession: G02127
A;Astaus: preliminary.
A;Molocia
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A; Title: A null mutation in the photoreceptor guanylate cyclase gene causes the A; Reference number: Z22141; MUID:98115910
A; Accession: T42382
A; Cratical Communication of the photoreceptor guanylate cyclase gene causes the A; Accession: T42382
                                                                                                                                                                                                           guanylate cyclase (EC 4.6.1.2) 1, retinal - chicken (fragment)
N;Alternate names: guanylyl cyclase; retinal guanylate cyclase 1
C;Species: Gallus gallus (chicken)
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jun-2000
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US-09-306-689-10 x G02127
                                                                                                                                                  C;Superfamily: membrane-bound guanylate cyclase; guanylate cyclase catalytic domain C;Keywords: cGMP biosynthesis; glycoprotein; phosphorus-oxygen lyase; transmembrane
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A; Residues: 1-528 <ITO>
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C;Date: 21-Dec-1996 #sequence_revision 06-Jun-1997 #text_change 23-Jul-1999
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Percent Similarity:
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seq_documentation_block:
hypothetical protein T24D8.5 - Caenorhabditis elegans
C:Species: Caenorhabditis elegans
C:Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C:Accession: T16933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seminal vesicle secretory protein II precursor - rat C;Species: Rattus norvegicus (Norway rat) C;Date: 08-Mar-1991 #sequence_revision 08-Mar-1991 #text_change 05-Nov-1999 C;Accession: A36443 R;Harris, S.E.; Harris, M.A.; Johnson, C.M.; Bean, M.F.; Dodd, J.G.; Matusik, J. Biol. Chem. 265, 9896-9903, 1990 A;Title: Structural characterization of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rat seminal vesicle secretion II parameters and the companion of the rate of the c
                                                                                                  submitted to the EMBL Data Library, November 1995
A;Description: The sequence of C. elegans cosmid T24D8.
A;Reference number: Z18609
A;Accession: T16933
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Regidues: 1-171 <MAR>
A;Cross-references:
C;Genetics:
A;Gene: CESF:T24D8.5
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Quality:
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184 SerPheGlyGlnMetLysSerSerGlySerGlnValLysSerPheGlyGl 200
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10 AGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCT
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                                                                  EMBL: U40422; NID: g1065529; PID: g1065532; PIDN: AAA81446.1; CESP: T24D8
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C; Genetics:
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FUS/CHOP mutant fusion protein - human
N;Alternate names: TLS/CHOP mutant fusion protein
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A; Note: TLS is a
C; Keywords: fusi
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A; Molecule type: mRNA
A; Residues: 1-462 <CRO>
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R;Crozat, A.; Aman, P.; Mandahl, N.; Ron,
Nature 363, 640-644, 1993
                                                                                                                                                                                                                                                                                                          alignment_block:
US-09-306-689-10 x S33798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: mRNA
A; Residues: 1-462 < RAB>
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A; Accession: S36158
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R; Rabbitts, T.H.; Forster, A.;
Nature Genet. 4, 175-180, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: GB:S62138; NID:g386158; PIDN:AAB27103.1; Rabbitts, T.H.; Forster, A.; Larson, R.; Nathan, P.
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                                                                                                                                                                                                                                        Align seg 1/1
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Date: 22-Nov-1993 #sequence
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                                                                                                  100 TyrGlyGlnGlnProAlaProSerSerThrSerGlySerTyrGlySerSe
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                                   63 TCCGGGTGGCTCTAGC
                                                                                                                                                                     13 TACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCG
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S is a synonym for
: fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Quality:
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Percent Identity:
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6
                               CAGCATTGGAGCTACGGCCTGC
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1
40.000
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PID:g386159

62

100

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C;Species: Homo sapiens (man)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 21-Jul-2000
C;Accession: S33799; S36157
R;Crozat, A.; Aman, P.; Mandahl, N.; Ron, D.
Rature 363, 640-644, 1993
A;Title: Fusion of CHOP to a novel RNA-binding protein in human myxoid lipos A;Reference number: S33798; MUID:93288139
A;Accession: S33798; MUID:93288139
hypothetical protein Y50E8A.m - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #te: C;Accession: T31617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Description: RNA binding; probable plays a role in transcriptional regulation C;Superfamily: RNA-binding protein EWS; ribonucleoprotein repeat homology C;Keywords: carcinogenesis; nucleus; RNA binding; tandem repeat F;286-361/Domain: ribonucleoprotein repeat homology <RRM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Cross-references: GDB:136048; OMIM:137070 A; Map position: 16pll.2-16pll.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Molecule type: mRNA
A;Residues: 1-63,'S',66-526 <RAB>
A;Cross-references: EMBL:X71428; NID:g393415;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  alignment_block:
us-09-306-689-10 x s33799
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Quality:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Rabbitts, T.H.; Forster, A.; Larson, R.; Nathan, P. Nature Genet. 4, 175-180, 1993
A;Title: Fusion of the dominant negative transcription A;Reference number: S36157; MUID:93350637
A;Accession: S36157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-526 <CRO>
A; Cross-references: GB:S62140; NID:g386156; PIDN:AAB27102.1;
A; Experimental source: liposarcoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RNA-binding protein FUS, nuclear - human; Alternate names: RNA-binding protein N;
                                                                                                        seq_documentation_block:
                                                                                                                                                           seq_name: pir2:T31617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Gene: GDB: FUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Experimental source: liposarcoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Align seg 1/1 to: S33799
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                                                                                                                                                                                                                                                                   GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGC 135
                                                                                                                                                                                                                                                                                                                                                                                                                                    TyrGlyGlnGlnProAlaProSerSerThrSerGlySerTyrGlySerSe 116
                                                                                                                                                                                                                                                                                                                                                                              TCCGGGTGGCTCTAGC......
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACGGCCTGCCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lnProSerTyrGlyGlyGlnGlnSerTyrGly 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGC 135
                                                                                                                                                                                                                   InProSerTyrGlyGlyGlnGlnGlnSerTyrGly 144
                                                                                                                                                                                                                                                                                                                           rSerGlnSerSerTyrGlyGlnProGlnSerGlySerTyrSerGlnG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69.00
2.464
62.222
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                                                                                                                                                                                                                                                                                                                                                                                 .CAGCATTGGAGCTACGGCCTGC 100
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0
                      29-Oct-1999 #text_change
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PIDN:CAA50559.1; PID:g4210363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 40.000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   regulator CHOP with a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               133
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                            29-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                myxoid liposarcoma
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Align seg 1/1

; 0:

I50739

from:

μ.

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98

64

CCGGGTGGCTCTAGCCAGCATTGGAGCTACCGGCCTGCGCCCTGGCAGCGG 113 ProGlnGlyCysCysGlnHisTrpSerTyrGlyLeuSerProGly..

. G1 33

18

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C;Accession: I50739

R;White, S.A.; Kasten, T.L.; Bond, C.T.; Adelman, J.P.; Proc. Natl. Acad. Sci. U.S.A. 92, 8363-8367, 1995

A;Title: Three gonadotropin-releasing hormone genes in c A;Reference number: I50739; MUID:95396797

A;Accession: I50739
alignment_block:
US-09-306-689-10 x
                                                                                                                                                                              A;Cross-references: EMBL:U31865; C;Superfamily: gonadoliberin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Reference number: 221047
A;Accession: T31617
A;Status: preliminary; translated from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  submitted to the EMBL Data A; Reference number: 221047
                                                                                                 alignment_scores:
Quality:
                                                                                                                                                                                                                          A; Molecule type: mRNA
A; Residues: 1-98 <WHI>
                                                                                                                                                                                                                                                                                                                                                                                                          C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                              gonadotropin-releasing hormone - Cichlid (Haplochromis burtoni)
C; Species: Haplochromis burtoni
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          seq_documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq_name:
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A;Experimental source: clone Y50E8A
                                                                                                                                                                                                                                                                A; Status: preliminary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Gene: CESP:Y50E8A.m
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                                                             Percent Similarity:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1130 ArgValLysTyrGlyTrpLysPro 1137
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1113 lyLysProGlnArgValLysTyrGlyValLysTyrGlyGlyLysProGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1096 sProGlnArgValLysTyrGlyTrpLysProGlnArgValLysTyrGlyG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCCTGGCAGCGGTAGCCAA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ....AGCTACGGCCTGCGTCCG..
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Ratio:
                                                                                Ratio:
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4.567
75.000
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55.172
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                                                           Gaps:
Percent Identity:
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                                                                                                                                                                                                     NID: 9905398;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Gaps:
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                                                                                                                                                                                                     PID:g905399
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R:Livingston, B.T.; Shaw, R.; Bailey, A.; Wilt, F.
Dev. Biol. 148, 473-480, 1991
A;Title: Characterization of a cDNA encoding a protein involved in formation of the skel A; Reference number: A43900; MUID:92077276
A;Accession: A43900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   alignment_block:
US-09-306-689-10 x T00975
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Quality:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Map position: 2
A; Introns: 395/2; 450/3; 487/3; 591/1; 602/2
A; Note: T9J22.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Accession: T00975
R;Rounsley, S.D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, R.C.; Sykes, S.M.; Kaul submitted to the EMBL Data Library, April 1998
A;Description: Arabidopsis thaliana chromosome II BAC T9J22 genomic sequence.
A;Reference number: Z14153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     seq_documentation_block:
hypothetical protein T9J22.9 - Arabidopsis thaliana
                                                      alignment_scores:
Quality:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   seq_documentation_block:
spicule matrix protein LSM34 precursor - sea urchin (Lytechinus pictus)
C;Species: Lytechinus pictus (painted urchin)
C;Date: 10-Mar-1993 *sequence_revision 18-Nov-1994 *text_change 20-Mar-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:AC002505; NID:g2739359; PID:g2739367
A;Experimental source: cultivar Columbia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-705 <ROU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq_name: pir2:T00975
                                                                                                                                                                        C; Keywords:
                                                                                                                                                                                              A;Cross-references: GB:X59616; GB:S68975; NID:g288149; PID:g288150
A;Note: sequence extracted from NCBI backbone (NCBIN:68975, NCBIP:68978)
                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-335 <LIV>
                                                                                                                                                                                                                                                                                                        A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       seq_name: pir2:A43900
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     Ratio:
Percent Similarity:
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Percent Similarity:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Accession: A43900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    146 nGly.....AspGlyTyrGlnGlyAsnTrpLysAlaAsnLeuGlnA 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   130 HisTrpLeuTrpGlyArgLysHisGlyTyrGlyGluLysArgTyrAlaAs 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              114 TAGCCAAGAT 123
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Length: 46
Gaps: 2
Percent Identity: 39.130
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237 lyGlyArgGlnProGlyPheGlyGlyArgGlnProGly 249

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Perfect score:
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   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Match
   Issued_Patents_AA:*

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2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*

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4: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

5: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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Copyright (c) 1993 - 2000 Compugen Ltd
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US-08-188-223-2
US-08-968-466-6
US-08-968-466-6
US-08-453-588-25
US-08-453-588-26
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 LOCATION:
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COLATION: 11:.10 OTHER INFORMATION: /note= "spacer" FEATURE: NAME/KEY: Modified-site COLATION: 1	NAME/KEY: LOCATION: LOCATION: OTHER INFO FEATURE: NAME/KEY:	TOPOLOGY: 11 MOLECULE TYPE: HYPOTHETICAL: FEATURE:	INFORMATION FO SEQUENCE CHA LENGTH: 1 TYPE: ami	NAME: Drivas Esq., Dimitrios T. REGISTRATION NUMBER: 32,218 REFERENCE/DOCKET NUMBER: 1102865-300 TELECOMMUNICATION INFORMATION: TELEPHONE: 212-819-8286	SOFTWARE: PatentIn Release #1.0, Version #1. CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/188,223 FILING DATE: 27-JAN-1994 CLASSIFICATION: 424 APPROVAMENTATION:	COUNTRY: USA ZIP: 10036-278; COMPUTER READABLE MEDIUM TYPE: F] COMPUTER: IBM [COMPUTER: IBM [CORRESPONDENCE ADDRESS ADDRESSE: Dimitric STREET: 1155 Avenue CITY: New York STATE: NY	GE .	ALIGNMENTS RESULT 1 US-08-188-223-2 ; Sequence 2, Application US/08188223 : Patent No. 5688506	29 58 57.4 10 1 US-08-453-588-22 30 58 57.4 10 1 US-08-188-223-3 31 58 57.4 10 1 US-08-406-935-5 32 58 57.4 10 1 US-08-387-156-2 33 58 57.4 10 1 US-08-387-156-2 34 58 57.4 10 1 US-08-474-555-1 35 58 57.4 10 1 US-08-446-692-1 36 58 57.4 10 1 US-08-446-692-1 37 58 57.4 10 1 US-08-49-65-2 38 58 57.4 10 2 US-08-796-598-6 38 57.4 10 2 US-08-694-865-2 39 58 57.4 10 2 US-08-694-865-2 40 58 57.4 10 2 US-08-694-865-18 41 58 57.4 10 2 US-08-488-351A-1 42 58 57.4 10 2 US-08-488-351A-1 43 58 57.4 10 2 US-08-488-351A-1 45 58 57.4 10 2 US-08-487-748-2 46 57.4 10 3 US-08-591-079-2 47 58 57.4 10 5 5492893-1
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Best Local Similarity
Matches $15; Conserv
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
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NAME: Drivas Esq., Dimitrios T.
REGISTRATION NUMBER: 32,218
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CORRESPONDENCE ADDRESS:
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LOCATION:
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LOCATION:
                                                                                       OTHER INFORMATION: OTHER INFORMATION:
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1155 Avenue of the Americas
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/note= "pyroglutamic acid (5-oxoproline)"
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/note= "pyroc
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3ER: 1102865-300
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Score 100; DB 3;
; Pred. No. 5.5e-07;
0; Mismatches 0;
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Pred. No.
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LOCATION: Region LOCATION: 11.17 OTHER INFORMATION: US-08-188-223-6
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                                                            Matches
                                                                        Query Match
Best Local Similarity
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INFORMATION FOR SEQ ID NO:
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TELEFAX: 212-354-8113
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NAME: Drivas Esq., Dimit
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                                                                                                                                                                                                                                                           FEATURE:
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OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Drivas Esq., Dimitrios T. REGISTRATION NUMBER: 32,218
REFERENCE/DOCKET NUMBER: 110286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/0 FILING DATE: 27-JAN-1994 CLASSIFICATION: 424
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STREET: 1155 Avenue of the Americas
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/note= "pyroglutamic acid (5-oxoproline)"
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Pred. No. 6.8e-05;
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                                                            Mismatches
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RESULT 4 US-08-968-466-6

Sequence 6 Patent No.

6, Application US/08968466 5. 6132720

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US-08-453-588-25
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                                                                                 Sequence 25, Applia Patent No. 5684145
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GENERAL INFORMATION:

APPLICANT: Willem Pieter Martin Hoeks
APPLICANT: Josephus Theodorus Gielen.

APPLICANT: Josephus Carrier system ag
                                                                                                                                                                                                                                                      Best Local Similarity
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UMBEE: US/08/968,466
FILING DATE: 27-JAN-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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NAME: Drivas Esq., Dimitrios T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: Immunogens Against Gonadotropin TITLE OF INVENTION: Releasing Hormone NUMBER OF SEQUENCES: 11
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APPLICANT: Scibienski,
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REFERENCE/DOCKET NUMBER: 11
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OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY:
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2 HWSYGLRPGSSPPPPC 17
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                                                                                                 Application US/08453588
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1155 Avenue of the Americas
                                   Anna van der Zee, Irma Marianne
Willem Pieter Martin Hoekstra,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17 amino acids
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                                                                                                                                                                                                                                                                                                                                "spacer"
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Best Local Similarity
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                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS_MS-DOS
SOFTWARE: PatentIn Release #1.0
                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: (
FILING DATE: 16-JUN-1
                                                                                                                            SOFTWARE: Patentin Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: Canumber of Sequences: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Anna van der Zee, Irma Marianne van Die, APPLICANT: Willem Pieter Martin Hoekstra, APPLICANT: JOsephus Theodorus Gielen.
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ADDRESSEE: Akzo No. 5684145el Patent Department STREET: 1300 Piccard Drive, Suite 206
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APPLICATION NUMBER:
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CITY: Rockville
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CITY: Rockville
STATE: Maryland
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             FILING DATE: 16-JUN-1993
APPLICATION NUMBER: EPA 1
                                                                                  CLASSIFICATION: 435
                                                                                                   FILING DATE:
                                                                                                                  APPLICATION NUMBER:
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MBER: EPA NO. 6019983 92.201.775.1
18-JUN-1992
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                                                 08/078,661
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Pred. No.
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                         Query Match
Best Local Similarity
Matches 10; Conserv
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Best Local Similarity
Matches 10; Conserv
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APPLICATION NUMBER: 08/078,66
ETILING DATE: 16-UN-1993
ATTORNEY/AGENT INFORMATION:
NAME: MATY E. GOTTLEY
REGISTRATION NUMBER: 34,409
TELECOMMUNICATION INFORMATION:
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/453,588
FILING DATE: 30-MAY-1995
CLASSIFICATION: 435
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CORRESPONDENCE ADDRESS: Akzo No. 5684145el Patent Department
STREET: 1300 Piccard Drive, Suite 206
CITY: Rockville
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TELECOMMUNICATION INFORMATION:
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NAME: William M. Blackst
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)GY: linear
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                                  Conservative
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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                                                 90.9%;
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                              Score 63; DB 1;
Pred. No. 0.024;
0; Mismatches
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                                                                 Length 16;
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; MOLECULE TYPE: US-08-521-079-26
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                                                                                  GENERAL INFORMATION:
APPLICANT: RUSSELL
APPLICANT: DE AIZPI
APPLICANT: HOWE, P.
                                                                                                                                                               Sequence 6, Application Patent No. 6103243
                                                                                                                                                                                                                                                                                                                                                      Matches
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Best Local Similarity
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NAME: William M. Blackstone
REGISTRATION NUMBER: 29,772
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APPLICATION NUMBER: 08/078,661
FILING DATE: 16-JUN-1993
APPLICATION NUMBER: EPA NO. 6019983 92.201.775.1
FILING DATE: 18-JUN-1992
CLASSIFICATION: 435
                                APPLICANT: RAND, Keith N
TITLE OF INVENTION: ORAL VACCINES
NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
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COMPUTER READABLE FORM:
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                   CORRESPONDENCE ADDRESS:
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ADDRESSEE:
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Y: U.S.A.
                                                                                                                                                                                 Application US/08458814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16 amino acids
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                                                                   HOWE, Peter
RAND, Keith N
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                                                                                                       RUSSELL-JONES, Gregory J
DE AIZPURUA, Henry J
                                                                                                                                                                                                                                                                                                                                                      Conservative
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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Foley & Lardner
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein
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:D NO: 26:
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STREET:

3000 K Street, N.W.

20007-5109 Washington

USA

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US-08-458-814-7
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Best Local Similarity
                                                                                                                                                                                                                                                                                                   Sequence 7, Application US/08458814 Patent No. 6103243
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 52 amino acids
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PRIOR APPLICATION NUMBER: AU PH3104
PTI.TING DATE: 25-OCT-1985
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & Lardner
STREET: 3000 K Street, N.W.
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ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/458,81
                                                                                                                                                                         APPLICANT: RUSSELL-JONES, Gregory
APPLICANT: DE AIZPURUA, Henry J
APPLICANT: HOWE, Peter
APPLICANT: RAND, Keith N
TITLE OF INVENTION: ORAL VACCINES
NUMBER OF SEQUENCES: 12
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APPLICATION NUMBER: 1
FILING DATE: 14-MAY-1
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MEDIUM TYPE: Floppy disk
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/327,822
FILING DATE: 18-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: 202 672 5399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: BENT, Stephen A
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 60042/155/BIAU
                                                                                                                                                                                                                                                                                                                                                                                                           37 HWSYGLRPGGDP 48
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                                                                        COUNTRY:
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                                                        20007-5109
                                                                                                         Washington
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DE AIZPURUA, Henry J
                                                                        USA
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14-MAY-1986
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83.3%;
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Pred. No. 0
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0.096;
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RESULT 11
US-07-714-540-9
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Best Local Similarity
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                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
ATTORNEY/AGENT INFORMATION: NAME: Reed, Dianne E.
                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Irell & Manella
STREET: 545 Middlefield Road, Suite 200
CITY: Menlo Park
                                                                                                                                                                                                                                                                                                                        APPLICANT: Almquist, Ronald G.
APPLICANT: Toll, Lawrence
TITLE OF INVENTION: ISOLATED ATRIAL PEPTIDE-DEGRADING
TITLE OF INVENTION: ENZYME AND NOVEL COMPOUNDS USEFUL AS INHIBITORS THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE: 15-MAY-
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PRIOR APPLICATION DATA:
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                                                 APPLICATION NUMBER: FILING DATE: 19910
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                                   CLASSIFICATION:
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FILING DATE: 14-MAY-1986
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SOFTWARE: Patentl
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15-MAY-1985
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n Release #1.0, Version #1.30
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Pred. No. 0
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Query Match
Best Local Similarity
Thehes 9; Conserve
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Best Local Similarity
Grands 9; Conserv
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: RUSSELL-JONES, Gregory J. APPLICANT: STEWART, Andrew G. APPLICANT: TSONIS, CON G. TITLE OF INVENTION: FUSION PROTEINS NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: FILING DATE: 24-AUG-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                               MOLECULE TYPE: protein -690-983D-2
                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 16:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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TELEPHONE: 415-327-7250
                                                                                                                                 TOPOLOGY:
                                                                                                                                               TYPE: amino acids .
                                                                                                                                                                                                                                                                              NAME: BENT, Stephen A. REGISTRATION NUMBER: 2
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CITY: Washington, D.C.
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                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/07/690,983D FILING DATE: 25-JUN-1991
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3000 K Street, N.W.
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                                                                                                                                                                                                                 (202)672-5399
                  Conservative
                                                                                                                                 unknown
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24-AUG-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          single
                                57.4%; Score 58; DB 1; 100.0%; Pred. No. 0.067;
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Pred. No.
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                    Mismatches
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US-07-690-983D-32
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                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                            Sequence 1, Application US/08103022
Patent No. 5413990
                                                                                                                                                                                                                                                                                                                                                  Matches
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 32,
                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Haviv, Fortuna
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/AU90/00373
FILING DATE: 24-AUG-1990
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Patentin Release #1.0, V CURRENT APPLICATION DATA: APPLICATION NUMBER: US/07/690,983D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                              NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: 11 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                TITLE OF INVENTION:
                                                                                 APPLICANT:
                                                                                                 APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION: TELEPHONE: (202)672-5300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: TSONIS, CON G.
TITLE OF INVENTION: FUSION PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                 Local Similarity hes 9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: 3000 K Street,
CITY: Washington, D.C.
COUNTRY: USA
 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: BENT, Stephen A. REGISTRATION NUMBER: 29, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM:
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                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
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                                                                                                                                                                                                                                                                                  2 HWSYGLRPG
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E: Edward H. Gorman, Jr., Dept. 377
Abbott Laboratories, One Abbott Park Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E: Foley & Lardner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10 amino acids
                                                                                             Fitzpatrick, Timothy D. Swenson, Rolf E. Nichols, Charles J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (202)672-5399
                                                                            Mort, Nicholas A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STEWART, Andrew G.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                             protein
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                                                                N-Terminus Modified Analogs of LHRH
                                                                                                                                                                                                                                                                                                                                                                100.0%;
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Gaps

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Best Local Similarity 100.
Thes 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Janssen, Jerry F.
REGISTRATION NUMBER: 29,175
REFERENCE/DOCKET NUMBER: 5389
TELECOMMUNICATION INFORMATION:
TELEPHONE: (708) 938-7742
TELEFAX: (708) 938-2623
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 6, Application US/08184935 Patent No. 5476770
                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                           STREET: 1/22
STREET: Arlington
CITY: Arlington
STATE: Virginia
STATE: U.S.A.
                                                      COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/184,935
FILLING DATE: 24-JAN-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5476770man F.
REGISTRATION NUMBER: 24,618
                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                    APPLICANT: PRADELLES, PHILIPPE
TITLE OF INVENTION: IMMUNOMETRIC DETERMINATION OF AN ANTIGEN
TITLE OF INVENTION: OR HAPTEN
NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/103,022
FILING DATE: 05-CCT-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Janssen, Jerry F
                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE:
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                                                                                                                                                                                                                                                         ADDRESSEE: OBLON, SELT.....,
ADDRESSEE: P.C.
STREET: 1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: Modified-site
LOCATION: 1
COTHER INFORMATION: /note= "Xaa at position 1 is a
OTHER INFORMATION: 5-oxo-prolyl aminoacyl residue."
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linear
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100.0%; Pr
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; NAME/KEY: Modified-site
; LOCATION: 10
OTHER INFORMATION: /note= "C-terminal amide"
US-08-184-935-6
Search completed: March Job time: 601 sec
                                                                                                                                            Matches
                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (703) 413-3000
TELEFAX: (703) 413-2220
TELEX: 24855 OPAT UR
INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: 84
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: peptide
                                                                                                2 HWSYGLRPG
                                                                               2 HWSYGLRPG 10
                                                                                                                                           Conservative
                                                                                                           10
              2, 2001, 10:54:36
                                                                                                                                                          57.4%; Score 58; DB 1; 100.0%; Pred. No. 0.067;
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Database :
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence:
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 SPTREMBL_15:*

1: sp_archea:*
2: sp_bacteria
3: sp_fungi:*
4: sp_human:*
5: sp_inverteb:
6: sp_mammal:*
7: sp_mhc:*
8: sp_organel:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:
12: sp_verteb::
13: sp_verteb::
14: sp_unclass:
                                                                                                                                                                                                                                                                                                                                                                                                             374700 seqs, 117207915 residues
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Gapop 10.0 , Gapext 0.5
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101
1 XHWSYGLRPGRPPPPC 16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                sp_archea:*
sp_bacteria:*
sp_fungi:*
sp_rodent:*
sp_virus:*
sp_vertebrate:*
sp_unclassified:*
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sp_phage:*
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sp_mhc:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

DB ID D 13 Q9PRH0 5 Q17795 6 Q9YWD2 13 Q98020 13 Q947410 13 Q947410 12 Q08057 12 Q08057 12 Q08064 12 Q08064 12 Q08064 12 Q08068 12 Q08137 12 Q08137 12 Q08137 12 Q08137
Length DB ID I 91 13
DB ID I 13
DB ID I 13
75711584870330000
Descri 09prh Q17795 Q9ywd2 08805 09911 09141 09427 08805 08805 08805 08805 08805 08813 08813

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48	48	48	48	48	48	48.5	49	49	49	49	49.5	50	50	50	50	50	50	50	50	50	50	51	51	52	52
47.5	47.5	47.5	47.5	47.5	47.5	48.0	48.5	48.5	48.5	48.5	49.0	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	50.5	50.5	51.5	51.5
1579	1051	635	629	598	329	1049	2129	754	645	373	423	480	211	112	112	112	112	112	112	112	90	2061	263	112	112
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Q9V4S1	091150	069087	Q07997	Q9P6X0	009798	094957	Q9U1R8	Q9N5W3	Q9P282	Q9NP08	012272	206018	045098	Q9PX03	Q9Q1S6	Q9Q1S7	Q9Q1S8	090189	P88144	Q76623	Q9IAU2	Q9VUH9	Q9PT52	Q89552	Q85604
Q9v4s1 drosophila	09v150 drosophila	Q69087 human herpe	Q07997 chironomus	Q9p6x0 neurospora	009798 human herpe	094957 homo sapien	Q9u1r8 caenorhabdi	Q9n5w3 caenorhabdi		Q9np08 homo sapien	012272 simian t-ce	Q06018 ovis aries	045098 caenorhabdi	Q9px03 human∤immun	Q9q1s6 human immun	Q9q1s7 human immun	Q9q1s8 human immun ·	Q9q1s9 human immun	P88144 human immun	Q76623 human immun	Q9iau2 rana dybows	Q9vuh9 drosophila	Q9pt52 agkistrodon	Q89552 chimpanzee	Q85604 human t-cel

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Matches 9
  09 WD2;
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INTERPRO; IPR000697; ...
INTERPRO; IPR001960; ...
INTERPRO; IPR003124; ...
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Q17795;
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Bonfield J., Burton J., Connell M., Copsey T., Cooper J., Coulson A
Craxton M., Dear S., Du Z., Durbin R., Favello A., Fulton L.,
Gardner A., Green P., Hawkins T., Hillier L., Jier M., Johnston L.,
Jones M., Kershaw J., Kirsten J., Laister N., Latreille P.,
Jones M., Kershaw J., Kirsten J., Laister N., Latreille P.,
Lightning J., Lloyd C., Mcmurray A., Mortinore B., O'Callaghan M.,
Parsons J., Percy C., Rifken L., Roopra A., Saunders D., Shownkeen I
Smaldon N., Smith A., Sonnhammer E., Staden R., Sulston J.,
Thierry-Mieg J., Thomas K., Vaudin M., Vaughan K., Waterston R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Watson
"2.2 Mk
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Eukaryota; Metazoa; Nem
Rhabditidae; Peloderina
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01-NOV-1996 (TIEMBLIE1. 01, Last sequence update)
01-COT-2000 (TIEMBLIE1. 15, Last annotation update)
SIMILARITY TO WISCOTT-ALDRICH SYNDROME PROTEINS.
                                                   Q9VWD2
                                                                                                                                                                                                                                                                                                                                                                                                                          [2]
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "2.2 Mb of contiguous nucleotide sequence from chromosome III of C
elegans.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=BRISTOL N2;
MEDLINE=94150718; PubMed=7906398;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                           Submitted (MAY-1996) to ti
EMBL; U58751; AAB00657.1;
                                                                                                                                                                                                                                                                                                                                                                                                                  Hawkins J
                                                                                                                                                                                                                                                                                                                                                     Waterston R.
                                                                                                                                                                                                                                                                                                                                                                STRAIN-BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nature 368:32-38(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=6239;
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PF00786; PBD;
PF02205; WH2;
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  (TrEMBLrel. 13, (TrEMBLrel. 13, (TrEMBLrel. 13,
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Created)
Last sequence update)
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                                                                                                                                                                                       Length 969;
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RESULT Q88020 ID Q8 AC Q8 DT 01 DE (N GN VI GN VI GN C)
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Best Local
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                                                          Q88020;
Q88020;
01-NOV-1996 (Tr)
01-NOV-1996 (Tr)
01-JUN-2000 (Tr)
01-JUN-2000 (Tr)
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Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bol
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NCBI_TaxID=7227;
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CG14234.
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8; Conservative
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381 AA; 41
                                                          (TrembLrel. 01, Created)
(TrembLrel. 01, Last seq
(TrembLrel. 14, Last ann
NA, COMPLETE CDS'S.
                                                                                                                                                                                                                      PRELIMINARY;
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41732 MW;
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                                                          Last sequence update)
Last annotation updat
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Pred.
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                                                                                              update)
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Chimpanzee immunodeficiency virus (SIV(cpz)) (CIV)

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RESULT
073812
ID 07
AC 07
DT 01
DT 01
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Best Local S
Matches 8
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Best Local S
Matches 9
073812 PRELIMINARY:
073812;
01-AUG-1998 (TrEMBLrel.
01-AUG-1998 (TrEMBLrel.
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Q9YI26;
                                                                                                                                                                                          Hormone;
NON_TER
NON_TER
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Eukaryota; Metazoa; Chordata; Cran
Actinopterygii; Neopterygii; Teleo
                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rodama T., Mori K., Kawahara T., Ringler D.J., Desrosiers R.C. "Analysis of simian immunodeficiency virus sequence variation tissues of rhesus macaques with simian AIDS.";
J. Virol. 67:6522-6534(1993).
EMBL; L22807; AAA47888.1;
                                                                                                                                                                                                                                                     -!- FUNCTION: STIMULATES EMBL; AF046801; AAD02427.
                                                                                                                                                                                                                                                                         Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: STIMULATES THE SECRETION OF BOTH LUTEINIZING FOLLICLE-STIMULATING HORMONES.
                                                                                                                                                                                                                                                                                                                   TISSUE-OVARY;
                                                                                                                                                                                                                                                                                                                                                Acanthomorpha; Acanthopterygii; Percomorpha; Sparidae; Sparus.
NCBI_TaxID=8175;
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SEQUENCE 112 AA; 12945 MW;
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                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
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                                                                                              HWSYGLRPG 10
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                                                                                    HWSYGLSPG
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8; Conser
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                                                                                                                             Conservative
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Created)
Last sequence update)
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Pred.
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1.7;
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1.9;
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Euteleostei; Neoteleostei
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                                                                                                                                              Length 87;
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Best Local S
Matches 8
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Best Local S
Matches 8
                                                                                                   Zmora N., Zohar Y., Elizur A.;
"3 GnRH form in the seabass Dicentrarchus labrax.";
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AF224279; AAF62898.1;
SEQUENCE 99 AA; 10758 MW; ECBAEEC93CC02904 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9IA10;
Q9IA10;
Q9IA10;
Q1-OCT-2000 (TremBLrel. 15, Last sequence update)
Q1-OCT-2000 (TremBLrel. 15, Last sequence update)
Q1-OCT-2000 (TremBLrel. 15, Last annotation update)
Q1-OCT-2000 (TremBLrel. 15, Last sequence update)
Q1-OCT-2000 
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Zohar Y., Elizur A., Munoz-Cueto J.A., Kah O.;
"Differential expression of three different prepro-GnRH
(Gonadotrophin-releasing hormone) messengers in the brain
European sea bass (Dicentrarchus labrax).";
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
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Acanthomorpha; Acanthopterygii;
Moronidae; Morone.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
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                                                                                                                                                                                                                              SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
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PRO; IPR002012; -.
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    Similarity
8; Conser
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    Conservative
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Pred. No.
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Teleostei; Euteleostei; Neoteleostei;
Ti; Percomorpha; Perciformes; Percoide
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Q88050;
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-!- MISCELLANEOUS: THIS IS A CAPTIVE MACAQUE NEMESTRINA EMBL; M32741; AAA91933.1; -.
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KEOdama T., Mori K., Kawahara T., Ringler D.J., Desro

"Analysis of simian immunodeficiency virus sequence
tissues of rhesus macaques with simian AIDS.";
J. Virol. 67:6522-6534(1993).

EMBL; L22804; AAA47679.1; -.
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(MM316X) DNA, COMPLETE CDS'S.
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PRINTS; PR00444; HIVVI
SEQUENCE 112 AA; 1;
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J. Virol. 67:6522-6534(1993).
EMBL; 123792; AAA47643.1;
INTERPRO; IPPRONONATA
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J. Virol. 67:6522-6534(1993).
EMBL; L22791; AAA72399.1; -.
INTERPRO, IPRO00012; -.
PFAM; PF00522; VPR; 1.
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Kodama T., Mori K., Kawahara T., Ringler D.J., Desro Kodama T., of simian immunodeficiency virus sequence "Analysis of simian immunodeficiency virus sequence tissues of rhesus macaques with simian AIDS.";
J. Virol. 67:6522-6534(1993).
EMBL, L22797; AAA44658.1;
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MEDLINE-94016835; PubMed-8411355;
Kodama T., Mori K., Kawahara T., Ringle
"Analysis of simian immunodeficiency vi
tissues of rhesus macaques with simian
J. Virol. 67:6522-6534(1993).
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PFAM; PF00522; VPR; 1.
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GNRHI OR GNRH OR LHRH.

Mesocricetus auratus (Golden hamster).

Mesocricetus auratus (Chordata; Craniata; Vertebrata; Euteleostomi;

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Cricetinae;
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Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.
-i- EUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT ST:
THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
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30-MAY-2000 (Rel. 37, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the European Bioinformatics Institute.
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30-MAY-2000 (Rel. 39, Last annotation update)
30-MAY-2000 (Rel. 34, Created)
30-MAY-2000 (Rel. 34, Created)
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Mammalia; Eutheria; Primates; Catarrhin.
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-!- FUNCTION: STIMULATES THE SECRETION OF THE SECRETION OF BOTH LUTEINIZING AND
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an email to license@isb-sib.ch).
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                                  Score 58;
Pred. No.
                                                                                                                                                                                                      505394DAA261A3F2
                                                                                                                                                                                                                                                                                                                                                                                                             ACTIVITY (BY SIMILARITY PYRROLIDONE CARBOXYLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GNRH-ASSOCIATED PEPTIDE APPEARS TO BE ESSENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BY SIMILARITY.
PROGONADOLIBERIN
GONADOLIBERIN I.
                                                                                                                                                                                                                                                                                                                           AMIDATION (G-16
                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY)
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                                  DB 1;
0.12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                There are no rest
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Matches 9
                                 01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
01-JAN-1990 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
9ROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
PROGONADOLIBERIN I (BURDONE I) (GONADOTROPIN RELEASING
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
(LUTEINIZING FI)
                                                                                                                                                                                                        GON1_MOUSE P13562;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOD_RES
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for contents in the content is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Endocrinology 134:1835-1844(1994).
-!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=94185563; PubMed=8137750; Hayes W.P., Wray S., Battey J.F.;
                     GNRH1 OR GNRH
                                                                                                                                                                                                                                                        MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; L28040; AAA49728.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             or send an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GnRH-associated peptide, but brain onset is
metamorphosis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "The frog gonadotropin-releasing hormone-I (GnRH-I) gene mammalian-like expression pattern and conserved domains i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Amphibia; Batrachia; Anura; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1995 (Rel.
30-MAY-2000 (Rel.
GONADOLIBERIN I PI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entities requires
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
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Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P45656;
01-NOV-1995
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musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                              HWSYGLRPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRO; IPR002012; -. PF00446; GnRH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity 9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         on
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        equires a license agreement (Semail to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pair of basic
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I PRECURSOR (GONADOTROPIN-RELEASING
                                                                                                                                                                                                                                STANDARD;
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32, Last sequence up
39, Last annotation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 58;
Pred. No.
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GONADOLIBERIN I.
GONADOTROPIN-RELEASING
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PYRROLLDONE CARBOXYLIC ACID.
AMIDATION (G-34 PROVIDE AMIDE GR
6F4F36FBAEOD4284 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PEPTIDE
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                                                                                                                                                                                                                                                                                                                                                                                                                                      ore 58; DB 1;
red. No. 0.16;
Mismatches
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84 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Amidation;
                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 89
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01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
9ROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
9ROGONADOLIBERIN I PRECURSOR HORMONE I) (GONADOTROPIN RELEASING (LUTEINIZING HORMONE RELEASING HORMONE I); GNRH-ASSOCIATED PEPTIDE I].
                                            Weesner G.
Submitted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-87069928; PubMed=3024321,
Mason A.J., Hayflick J.S., Zoeller R.T.,
Phillips H.S., Nikolics K., Seeburg P.H.
                                                      SEQUENCE FROM N.A.
TISSUE=HYPOTHALAMUS;
Weesner G.D., Matter
                                                                                                 Sus scrofa (Pig).
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                               PEPTIDE
ACT_SITE
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PROSITE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               use
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          SEQUENCE OF 24-33
MEDLINE=72114303;
                                                                                                                                                                                                                           GON1_PIG
                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                responsible for hypogonadism in the Science 234:1366-1371(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIGNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERPRO;
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                                                                                                                                                                                                                                                                                                       2 HWSYGLRPG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: BELONGS TO THE GNRH FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FUNCTION: STIMULATES THE SECRETION OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THE SECRETION OF BOTH LUTEINIZING
Y., Matsuo H.,
                                                                                                                                                                                                                                                                                 HWSYGLRPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MGI:95789;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PF00446; GnRH;
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9; Conserv
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                                            (MAY-1994)
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                                                                                                                                                                                                                           STANDARD;
           PubMed=4946067
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                                                                                                 Chordata; Craniata; Vertebrata; Cetartiodactyla; Suina; Suidae;
 Schally
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100.0%;
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to the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                residues; Hormone; Amidation; Hypothalamus;
                                            EMBL/GenBank/DDBJ
                                                        Becker B.A.;
                                                                                                                                                                                                                                                                                                                              0,:
                                                                                                                                                                                                                                                                                                                                         Score 58;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                               PYRROLIDONE CARBOXYLIC F AMIDATION (G-32 PROVIDE
                                                                                                                                                                                                                                                                                                                                                                                                                               PROLACTIN RELEASE-INHIBITING APPEARS TO BE ESSENTIAL FOR I
                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROGONADOLIBERIN GONADOLIBERIN I.
                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                     1C0766FA4826E4D9
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21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 07, Last sequence update)
30-APR-1988 (Rel. 07, Last sequence update)
30-AAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOTROPIN RELEASING PROGONADOTROPIN RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GONADORELIN); GNRH-ASSOCIATED
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MOD_RES
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                                             Homo sapiens (Human)
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; L32864; AAA31066.1; PIR; A01411; RHPGG.
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-i- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES THE SECRETION OF GONADOTROPINS; OF STIMULATES THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        an email to license@isb-sib.ch).
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Pred. No.
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AMIDATION (G-34 PROVIDE AMIDE GROUP)
8340474F32DDAA99 CRC64;
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                      Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          Biochem. Biophys. Res. Commun. 109:1061-1071(1982).
-!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT ST
THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
                                                                                                                                                                                                                                                                                                                      entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                         use by non-profit institutions as long modified and this statement is not removed.
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Seeburg P.H., Adelman J.P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of gonadotropin-releasing hormone and factor in human and rat.":
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                                                                                                                                                                                          Cleavage
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=86094338; PubMed=2867548;
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MEDLING-86094338; PubMed-2867548;

Adelman J.P., Mason A.J., Hayflick J.S., Seeburg

"Isolation of the gene and hypothalamic cDNA for
of gonadotropin-releasing hormone and prolactin
factor in human and rat.";
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                                                                                                                                                                                                                                                  Science 235:1514-1517(1987).
-i- FUNCTION: STIMULATES THE SECRETION
THE SECRETION OF BOTH LUTEINIZING I
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01-APR 1988 (Rel. 07, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
01-OCT-2000 (Rel. 40, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GNRH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING F2
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                                             EMBL;
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                                                                                                                                modified and this statement is not removed. entities requires a license agreement (See
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                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the European Bioinformatics Institute. There are no resti
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                                   EMBL;
                                                                                                                                                                                                                                                                                           DNA locus."
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        BL; S50870; AAB24572.1; -.
BL; M12579; AAA41263.1; -.
BL; M31670; AAA41264.1; -.
BL; M15527; AAA42141.1; ALT_SEQ.
BL; M15529; AAA42139.1; -.
BL; M15528; -NOT_ANNOTATED_CDS.
BL; M15528; RHFTG.
R; B46170; A48410.
                                                                                                                                                                                                                   TISSUE SPECIFICITY: CENTRAL NERVOUS SYS SIMILARITY: BELONGS TO THE GNRH FAMILY.
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                                                                                                                                                                                                                                                                                                   man J.P., Bond C.T., Douglass J., mammalian genes transcribed from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rat gonadotropin-releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Endocrinol.
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                                                                                                                     an email to license@isb-sib.ch)
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Eutheria;
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Rodentia;
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basing hormone:
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Sciurognathi;
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thi; Muridae;
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hypothalamic
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; Murinae; Rat
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RESULT 9
GON1_TUPGB
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Matches 9
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15-DEC-1998
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MOD_RES
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SIGNAL
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PEPTIDE
                                                                                                                                                                      between
the Euro
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                                                                                                                            use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                           Gen.
                                                                                                                                                                                                                                                                                                    TISSUB-HYDOTHALAMUS;
MEDLINE-97079639; PubMed-8921350;
Medline-97079639; Norton T.T.,
                                                                                                                                                                                                                                                                                                                                                     Tupaia glis belangeri (Common tree shrew).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Scandentia; Tupaiidae; Tupaia.
                                                                                                                                                                                                                                                                                                                                                                                                                  15-DEC-1998 (Rel. 37, Last sequence upda 30-MAY-2000 (Rel. 39, Last annotation up PROGONADOLIBERIN I PRECURSOR [CONTAINS:
                                                                                                          EMBL;
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placental mammal.";
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30-MAY-2000
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                                                                    Cleavage
                                                                              PROSITE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHAIN
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                                                                                                                                                          s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the EN European Bioinformatics Institute. There are no restrictly by non-profit institutions as long as its content
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0446; GnRH; 1.
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ON: STIMULATES THE SECRETION OF
CRETION OF BOTH LUTEINIZING AND
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mesencephalic
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                                                                                                                                                                                                           THE GNRH FAMILY.
    BY SIMILARITY.
PROGONADOLIBERIN I.
GONADOLIBERIN I.
GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE I
APPEARS TO BE ESSENTIAL F
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AMIDATION (G-34 PROVIDE
494B5C64DA8A3EB3 CRC64
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GONADOLIBERIN I.
PROLACTIN RELEASE-INHIBITING
APPEARS TO BE ESSENTIAL FOR E
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GnRH gene
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FOLLICLE-STIMULATING
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B3 CRC64;
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                                                                  Hypothalamus;
        BIOLOGICAL
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RESULT 11
GON1_CHICK
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AC P37042
DT 01-FEB
DT 30-MAY
DT 30-MAY
DE PROGON
DE (LUTE)
DE HORMON
OS GALLUS
OC EN'RATY
OC Archos
OC GALLUS
RN [1]
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Best Local Similarity
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GON1_ALLMI
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                                                    GON1_CHICK STANDARD; PRT; 92 AA.
P37042; P20407;
01-FEB-1991 (Rel. 17, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (CHRH I)
(LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
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MOD_RES
SEQUENCE
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01-FEB-1991 (Rel. 17, Last sec
15-DEC-1998 (Rel. 37, Last ann
Archosauria; Aves; Gallus; [1]
                                   Gallus gallus (Chic)
Eukaryota: Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                         Lovejoy D.A., Fischer W.H., Parker D.B., McRory J.E., Park M., Lance V., Swanson P., Rivier J.E., Sherwood N.M.;
"Primary structure of two forms of gonadotropin-releasing hormone from brains of the American alligator (Alligator mississippiensis) Regul. Pept. 33:105-116(1991).
-!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-DEC-1998 (Rel. 37, Last annotation update) GONADOLIBERIN I (GONADOTROPIN-RELEASING HORMONE
                                                                                                                                                                                                                                                                                                                                                                                       PIR; A60066; RHAQ1.
INTERPRO; IPR002012;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alligator mississippiensis (American alligator).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Archosauria; Crocodylidae;
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                                               (Chicken).
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1172
                       Neognathae;
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                       Chordata; Craniata; Vertebrata;
Neognathae; Galliformes; Phasiani
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AMIDATION (G-34 PROVIDE SIMILARITY).
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                       Phasianidae;
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MEDLINE=82265778; PubMed=7050119;
King J.A., Millar R.P.;
"Structure of chicken hypothalamic luteinizing hormone. II. Isolation and characterization.";
J. Biol. Chem. 257:10729-10732(1982).
01-OCT-1996 (Rel. 34, Created)
30-MAY-2000 (Rel. 39, Last annotation update)
30-MAY-2000 (Rel. 39, Last annotation update)
GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
                                                                                                                                                                                                                                                                                                Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                            between the Swiss Institute of Bloinformat
the European Bioinformatics Institute. The
use by non-profit institutions as long
modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SYNTHESIS OF 24-33.
MEDLINE-82265777; PubMed-7050118;
King J.A., Millar R.P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=94059355; PubMed=7902095;
Dunn I.C., Chen Y., Hook C., Shar
"Characterization of the chicken
hormone-I gene.";
                                                                                                                                                                                                                                                                                                                                                                     EMBL; X69491; CAA492.
PIR; S33507; S33507.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           material.";
J. Biol. Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-HYPOTHALAMUS;
King J.A., Millar R.P.;
"Structure of avian hypothalamic gonadotrophin-releasing hormone.";
S. Afr. J. Sci. 78:124-125(1982).
                                                                                                                                                                                                                                                                                                                                                                                                        or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                        Cleavage
                                                                                                                                                                                                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                                                                                                                               PFAM; PF00446; GnRH;
                                                                                                                                                                                                                                                                                                                                                         INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                    entities
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                                                                                                                                          HWSYGLRPG
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                                                                                                                                                                                                                                                                                                                                                                                 X69491; CAA49246.1;
                                                                                                                                                                   8; Conservative
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                                                            STANDARD;
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GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE I.
PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-34 PROVIDE AMIDE GROUP).
61AEB7EBAF508B6A CRC64;
                                                                                                                                                                               Pred.
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                                                                                                                                                                   ore 54; DB
ed. No. 0.55
Mismatches
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preprogonadotrophin-releasing
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                                                                                                                                                                                                                                                                                                                        Hormone;
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  HORMONE I) (GNRH-I)
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Regul. Pept. 57:43-53(1995).
-I- FUNCTION: STIMULATES THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-95396797; PubMed-7667296; White S.A., Kasten T.L., Bond C.T., Adelman J.P. "Three gonadotropin-releasing hormone genes in one novel roles for an ancient peptide."; Proc. Natl. Acad. Sci. U.S.A. 92:8363-8367(1995)
                                                                                                                                                                                                                                                                                           modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-95372591; PubMed-7644702; Powell J.F.F., Fischer W.H., Park White S.A., Francis R.C., Fernald
                                                                                                                                                                                                                         PROSITE;
                                                                                                                                                                                                                                     PFAM; PF00446; GnRH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sherwood N.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-PITUITARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei; Acanthopterygii; Percomorpha; Perciformes; Labroidei;
                                                                                                       SEQUENCE
                                                                                                                                                                                        SIGNAL
                                                                                                                                                                                                    Signal;
                                                                                                                                                                                                               Cleavage
                                                                                                                                                                                                                                                                       EMBL; U31865; AAC59691.1; -.
                                                                                                                                                                                                                                                                                                                                                           between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GnRH) in cichlid pituitary;
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TISSUE SPECIFICITY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESPONSIBLE FOR THE REGULATION
                                                                                                                                                                                                                                                                                                                                                      SWISS-PROT entry is copyright. It is produced through a een the Swiss Institute of Bioinformatics and the EMBI
                      HWSYGLRPG
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                                                                                                                                                                                                    Multigene
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                                             Conservative
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LATION OF THE
                                                                                                     GONADOLIBERIN I.

GONADOLIBERIN I.

GONAH-ASSOCIATED PEPTIDE I (POTENTIAL).

PYRROLIDONE CARBOXYLIC ACID.

AMIDATION (G-33 PROVIDE AMIDE GROUP).

ENGHRTEKK -> KMDTGHSRNERFL (IN REF. 1)

E57DBA83333278D7 CRC64;
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1;
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                  P51919;
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D1-OCT-1996 (Rel. 37, Last sequence update)
D1-OCT-1998 (Rel. 37, Last annotation update)
D1-DEC-1998 (Rel. 37, Last annotation update)
GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-(LH-RH I) (LULIBERIN I) (SBGNRH).
Sparus aurata (Gilthead sea bream).
Sparus aurata (Gilthead sea bream).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostemi; Actinopterygii; Neopterygii; Teleostei; Buteleostei; Neoteleostei; Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei
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Submitted (SEP-1996) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pagrus major (Red sea bream) (Chrysophrys major).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
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the European Bioinformatics Institute
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SIMILARITY: BELONGS TO THE GNRH FAMILY
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he EMBL/GenBank/DDBJ
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GNRH-ASSOCIATED PEPTIDE I (F
PYRROLIDONE CARBOXYLIC ACID
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01-NOV-1988
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                    MEDLINE-87287230; PubMed-3649576; Chakrabarti L., Guyader M., Alizon M., Daniel M.D., Desrosiers i Tiollais P., Sonigo P.; "Sequence of simian immunodeficiency virus from macaque and its relationship to other human and simian retroviruses."; Nature 328:543-547(1987).
                                                                                                                                                                                                       Viruses;
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MEDLINE-95266499; PubMed-7749463;

MEDLINE-95266499; PubMed-7749463;

Gothilf Y., Elizur A., Chow M., Chen T.T., Zohar Y.;

"Molecular cloning and characterization of a novel gonadotropin-
releasing hormone from the gilthead seabream (Sparus aurata).";

Mol. Mar. Biol. Biotechnol. 4:27-35(1995).

[2]
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Proc. Natl. Acad. Sci. U.S.A. 91:12081-12085(1994).
Proc. Natl. Acad. Sci. U.S.A. 91:12081-12081-12085(1994).
Proc. Natl. Acad. Sci. U.S.A. 91:12081-12081-12081-12081-12081-12081-12081-12081-12081-1208
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                                                                                                                                                                                                                      Simian immunodeficiency virus (Mm142-83 Viruses; Retroid viruses; Retroviridae;
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TISSUE=BRAIN;
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SEQUENCE FROM N.A.
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GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-36 PROVIDE AMIDE GROUP).
49313FD6FD6B87DA CRC64;
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                                                                                                                                                                                               AIDS.
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       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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44.6	44.6	44.6	44.6	44.6	45.0	45.0	45.5	45.5	46.0	46.0	46.0	46.0	46.5	46.5	46.5
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ALIGNMENTS

R;Baba, Y.; Matsuo, H.; Schally, A.V. Biochem. Biophys. Res. Commun. 44, 459-463, 1971 A;Title: Structure of the porcine LH- and FSH-releasing hormone. II. Confirmation A;Reference number: A90172; MUID:72114303 A;Accession: A01411

me

gonadoliberin - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 18-Mar-1997
C;Accession: A01411

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A; Molecule type: protein
A; Residues: 1-10 < BABP>
A; Residues: 1-10 < CABP>
R; Matsuo, H.; Arimura, A.; Nair, R.M.G.; Schally, A.V.
Biochem. Biophys. Res. Commun. 45, 822-827, 1971
Biochem. Biophys. Res. Commun. 45, 822-827, 1971
A; Title: Synthesis of the porcine LH- and FSH-releasing hormone by the solid-phase A; Reference number: A90176; Molecular A; Note: the synthetic and natural hormones have the same physicochemical and biolog A; Note: the synthetic and natural hormones have the same physicochemical and biolog A; Note: Arimura, A.; Schally, A.V.
R; Babba, Y.; Arimura, A.; Schally, A.V.
R; Babba, Y.; Arimura, A.; Schally, A.V.
R; Babba, Y.; Arimura, A.; Schally, A.V.
R;Burgus, R.; Butcher, M.; Amoss, M.; Ling, N.; Monahan, M.; Rivier, J.; Fellows, R.; Proc. Natl. Acad. Sci. U.S.A. 69, 278-282, 1972
A;Title: Primary structure of the ovine hypothalamic luteinizing hormone-releasing fa A;Reference number: A93780; MUID:72094314
A;Accession: A93780
                                                                                                                                                               gonadoliberin - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 18-Mar-1997
C;Accession: A93780; A01411
C;Accession: A93780; A01411
Fe
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Contents: annotation
A;Note: Trp-3 appears to be essential for biological activity
C;Comment: This hypothalamic hormone stimulates the secretion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Biochem. Biophys. Res. Commun. 45, 483-487, 1971 A; Title: On the tryptophan residue in porcine LH A; Reference number: A90175; MUID:72117544
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C;Superfamily: gonadoliberin c;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental F;10/Modified site: amidated carboxyl end (Gly) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: protein A;Residues: 1-10 <BUR>
A;Residues: 1-10 <BUR>
A;Note: the natural and synthetic hormones have the C;Comment: This hypothalamic hormone stimulates the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Ma, Y.J.; Costa, M.E.; Ojeda, S.R. Neuroendocrinology 60, 346-359, 1994 A;Title: Developmental expression of the A;Reference number: IS8134; MUID:95124501 A;Accession: I78541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Macaca mulatta (rhesus macaque)
C;Date: 02-Aug-1996 #sequence_revision 02-
C;Accession: 178541
Q
                                                                                                                                                                                                                                                                   R:Hayes, W.P.; Wray, S.; Battey, J.F.
Endocrinology 134, 1835-1845, 1994
A;Title: The frog GnRH-I gene has a mammalian-like expression
A;Reference number: I51423; MUID:94185563
                                                                                                                                                                                                                                                                                                                                           N;Alternate names: luteinizing hormone releasing hormone
C;Species: Xenopus laevis (African clawed frog)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_C;Accession: I51423
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C;Superfamily: gonac
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A; Residues: 1-67 < RES>
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                                                                                                                                                                                                                                                      A; Accession:
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                                                                                                                                                                                                                                                                                                                                                                                                                  gonadoliberin precursor - African clawed frog
                                                                                                                                                              Genetics:
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Residues: 1-89 <HAY>
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                                                                                                                                                                               PIDN:AAA49728.1;
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C; Function: gonadoliberin-associated process.

A; Note: gonadoliberin-associated process.

C; Superfamily: gonadoliberin
C; Keywords: amidated carboxyl end; hormone; hypothalamus; pyrog
F; 1-23/Domain: signal sequence #status predicted <SIG>
F; 22-31/Product: gonadoliberin #status predicted <GLB>
F; 35-90/Product: gonadoliberin-associated protein #status pred
F; 22/Modified site: pyrrolidone carboxylic acid (Gln) (in mat)
F; 22/Modified site: amidated carboxyl end (Gly) (amide in mat)
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                                                                                                                                                                                                                                                                                                                                                                                                                 A;Reference number: S05308; MUID:89366682
A;Accession: S05308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Homo sapiens (man)
C;Date: 17-Mar-1987 #sequence_revision 21-Jul-1995 #text_change 18-Ju
C;Date: 17-Mar-1987 #826173; A93342; A90108; A01410; S45718
C;Accession: S05308; A26173; A93342; A90108; A01410; S45718
R;Hayflick, J.S.; Adelman, J.P.; Seeburg, P.H.
Nucleic Acids Res. 17, 6403-6404, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Introns:
C; Function:
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                                                                                                                                                                                                                       R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Se
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic
A;Reference number: A94090; MUID:86094338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R; Mason, A.J.; Hayflick, J.S.; Zoeller, R.T.; Science 234, 1366-1371, 1986
                                                 R; Seeburg, P.H.;
Nature 311, 666-
                                                                        A;Cross-references: GB:M12578; NID:g183418; A;Experimental source: hypothalamus R;Seeburg, P.H.; Adelman, J.P.
                                                                                                                                                                                               A; Reference number: A; Accession: A26173
                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-92 <HAY>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N; Contains:
C; Species: H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N;Alternate names: gonadotropin releasing hormone (GnRH); luteinizing hormone N;Contains: gonadoliberin-associated protein (GAP); progonadoliberin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                         A; Title: Characterization of cDNA
                                                                                                                                                   A; Molecule type: mRNA
A; Residues: 1-92 < ADE>
                                                                                                                                                                                                                                                                                                                              A;Cross-references: EMBL:X15215; NID:g31955; PIDN:CAA33285.1;
                                                                                                                                                                                                                                                                                                                                                                                                    A; Status: translation not shown
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Residues: 1-90 <MAS>
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                                                      666-668, 1984
  number: A93342;
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9; Conser
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100.0%
f cDNA for precursor of human luteinizing MUID:85012739
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of the human gonadotropin-releasing hormone
                                                                                                                            PIDN: AAA35916.1;
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0.34;
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                                                                                                                                                                                                                                                                                                    Seeburg, P.H.
                                                                                                                                                                                                                                                      CDNA
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mature form from following
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A: Note: gonadoliberin-associated protein may have prolacti C: Superfamily: gonadoliberin C: Keywords: amidated carboxyl end; hormone; hypothalamus; F:1-23/Domain: signal sequence #status predicted <PGN-F:24-92/Product: progonadoliberin #status predicted <PGN-F:34-33/Product: gonadoliberin #status experimental <MANT-F:34-33/Product: gonadoliberin #status experimental *status F:24/Modified site: pyrrolidone carboxylic acid (Gln) (in F:33/Modified site: amidated carboxyl end (Gly) (amide in
                                                                                                                                                                                                                                                                                                                                                    C:Species: Rattus norvegicus (Norway rat)
C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change
C;Accession: A40147; B26173; A48410
R:Bond, C.T.; Hayflick, J.S.; Seeburg, P.H.; Adelman, J.P.
Mol. Endocrinol. 3, 1257-1262, 1989
A;Title: The rat gonadotropin-releasing hormone: SH locus: struc A;Reference number: A40147; MUID:89384661
A;Accession: A40147
A:Molecule type: mRNA
A:Residues: 1-92 <ADE:
A:Cross-references: GB:M12579; NID:g204445;
A:Cross-references: GB:M12579; NID:g204445;
R:Maier, C.C.; Marchetti, B.; LeBoeuf, R.D.;
Cell. Mol. Neurobiol. 12, 447-454, 1992
Cell. Mymocytes express a mRNA that is i
A:Reference number: A48410; MUID:93105480
                                                                                                                                                                 A;Cross-references: GB:M31670; NID:g204447; PIDN:AAA41264.1; R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H. Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic cDNA for the A;Reference number: A94090; MUID:86094338
A;Accession: B26173
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A;Title: The chemical identity of the immunoreactive
A;Reference number: A90108; MUID:83126573
                                                                                                                                                                                                                                                                                                        A; Molecule type: DNA
A; Residues: 1-92 <BON>
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A; Introns: 47/3; 79/3
C; Function:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gonadoliberin precursor -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Description:
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A; Cross-references: GDB:133746; OMIM:227200; OMIM:152760
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A; Residues: 1-15, 'S',
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liberin-associated protein may have
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                                                                    R.D.;
                          identical
                                                                                             PIDN: AAA41263.1;
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0.35;
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                                                                                                           gonadoliberin I - American alligator
N;Alternate names; gonadotropin-releasing hormone I
C;Species: Alligator mississippiensis (American all
C;Date: 31-Mar-1993 *sequence_revision 31-Mar-1993
A; Title: Pri
A; Reference
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                                                                    R; Lovejoy, D.A.;
                                                                                        C; Accession: A60066
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                                            Pept. 33, 105-116,
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                   Primary structure of two
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                                                                    Fischer, W.H.;
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Parker,

D.B.;

McRory, J.E.;

Park,

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.ligator)

#text_change 18-Mar-1997

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of two forms of MUID:91352338

gonadotropin-releasing

hormone

from

brains

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A; Introns: 47/3; 79/3
C; Function:
A; Description: stimulates pituitary secretion of lutropin and follitrop
A; Description: stimulates pituitary secretion of lutropin and follitrop
A; Note: gonadoliberin-associated protein may have prolactin release inh
C; Superfamily: gonadoliberin
C; Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyr
F; 1-23/Domain: signal sequence #status predicted <SIG>
F; 21-23/Domain: signal sequence #status predicted PGN>
F; 24-92/Product: progonadoliberin #status predicted <GLN>
F; 27-92/Product: gonadoliberin #status predicted <GLN>
F; 27-92/Product: prolactin release inhibiting factor #status predicted
F; 24/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form fr; 33/Modified site: amidated carboxyl end (Gly) (amide in mature form fr
                                                                                                                                                                                                                                                                                                                                                                                                             hypothetical protein CO7G1.4 - Caenorhabditis C;Species: Caenorhabditis elegans C;Date: 20-Sep-1999 #sequence_revision 20-Sep-C;Accession: T15446
                                                                                                       A; Map position: 4
A; Introns: 110/3; 149/2;
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A; Residues: 1-969 <HAW>
                                                                                                                                                                                                                                                                                                      A; Reference number: A; Accession: T15446
                                                                                                                                                  A; Gene: CESP:C07G1.4
                                                                                                                                                                                            A;Cross-references: EMA;Experimental source:
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9; Conserv
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                                                                                                                                                                                                                                                                                                                                              EMBL Data Library, May 1996 he sequence of C. elegans cosmid CO7G1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \frac{\omega}{\omega}
                                                                                                                                                                                                              EMBL: U58751;
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                                                                                                                                                                                            strain
                                                                                                       515/1;
                 54.5%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                57.4%;
100.0%;
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                                                                                                                                                                                            Bristol
                                                                                                       564/1; 600/2; 690/2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI backbone (NCBIN:121082,
                                                                                                                                                                                            NID:g1326379; PID:g1326381; PIDN:AAB00657.1; istol N2; clone C07G1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
Score 55; DB
Pred. No. 9.2;
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 58;
Pred. No.
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                                                                                                                                                                                                                                                                               GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                    20-Sep-1999 #text_change 20-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PIDN: AAB24572.1;
             DB
9.2;
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0.35;
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                                      Length 969
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                                                                                                       755/3; 843/3;
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elease inhibiting
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                                                                                                       884/3; 940/2
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from following
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A;Accession: A60066
A;Molecule type: protein
A;Molecule type: protein
A;Molecule type: protein
A;Mesidues: 1-10 <LOV>
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental
                                                                                                                                                                                                                                  A;Title: Three gonadotropin-releasing hormone A;Reference number: I50739; MUID:95396797 A;Accession: I50739
A;Status: preliminary; translated from GB/EMBI A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                   gonadotropin-releasing hormone - Cichlid (Haplochromis burtoni)
C;Species: Haplochromis burtoni
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C;Accession: I50/39
R;White, S.A.; Kasten, T.L.; Bond, C.T.; Adelman, J.P.; Fernald, R.D.
Proc. Natl. Acad. Sci. U.S.A. 92, 8363-8367, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gonadoliberin I precursor - chicken
N;Alternate names: gonadotropin-releasing hormone I
C;Species: Gallus gallus (chicken)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999
C;Accession: I50644; S33507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Dunn, I.C.; Chen, Y.; Hook, C.; Sharp, P.J.; Sang, H.M.
J. Mol. Endocrinol. 11, 19-29, 1993
A;Title: Characterization of the chicken preprogonadotrophin-releasing hormone-I gene.
A;Reference number: I50644; MUID:94059355
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                                Qy
                                                                                                                                                                           A;Cross-references:
C;Superfamily: gonac
                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-98 <WHI>
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C;Superfamily: gonadoliberin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL:X69491; NID:g496326; PIDN:CAA49246.1; PID:g311612 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: DNA
A; Residues: 1-92 < DU2>
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Best Local S
Matches 8
                                                                                              Query Match
Best Local
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Best Local
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25 HWSYGLQPG 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity 88. nes 8; Conservative
24 HWSYGLSPG
                  2 HWSYGLRPG 10
(||||||
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                                                                          Similarity
8; Conserv
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8; Conserv
                                                                                                                                                                           gonadoliberin
                                                                            Conservative
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                                                                                                                                                                                           EMBL: U31865; NID: g905398; PIDN: AAC59691.1;
                                                                                            51.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      53.5%;
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Pred. No. 0.13
1; Mismatches
                                                                            0;
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Pred. No. 1.2;
1; Mismatches
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                                                                                            Score 52;
Pred. No.
                                                                                                                                                                                                                                                       from GB/EMBL/DDBJ
                                                                            Mismatches
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                                                                                                               Length 98
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                                                                            Indels
                                                                                                                                                                                                                                                                                                                 one organism suggest novel roles
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                                                                                                                                                                                           PID: 9905399
                                                                          0;
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                                                                        Gaps
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RESULT
S03066
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Nature 328, 543-547, 1987
A;Title: Sequence of simian immunodeficiency virus
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Best Local Similarity
Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N;Alternate names: vpx protein
C;Species: simian immunodeficiency virus, SIV
C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 08-Apr-1994
C;Accession: A30996
                                                                     R; Hahn, B.H.; Kong, L.I.; Lee, Nature 300, 184-186, 1987 A; Title: Relation of HTLV-4 to
                                                                                                                                         gene X protein - human T-cell lymphotropic virus type 4
C;Species: human T-cell lymphotropic virus type 4, HTLV-4
C;Date: 21-Nov-1993 #sequence_revision 26-May-1995 #text_change 20-Sep-1999
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Best Local Similarity
"~+~hes 9; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N;Alternate names: orf-X protein
C;Species: simian immunodeficiency virus, SIV
C;Species: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 16-Jul-1999
C;Accession: D28887
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ASLJX3
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C;Superfamily: AIDS vpu protein
                                  A; Reference number: S03065
A; Accession: S03066
                                                                                                                                                                                                                                                                                                                                                                                                                                                  C; Superfamily: AIDS vpu protein
C; Keywords: AIDS; immunodeficiency
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 1-112 <CHA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Reference number: A28887; A; Accession: D28887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: protei
A; Residues: 1-106 <HEN>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R; Henderson, L.E.; Sowder, R.C.; Copeland, Science 241, 199-201, 1988
A; Molecule type: DNA
               A; Status: preliminary;
                                                                                                                            C; Accession: S03066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Gene: vpu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Genetics:
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    simian immunodeficiency virus (macaque isolate)

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                 nucleic
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                 acid sequence not shown; translation
                                                                       simian
                                                                                                        S.W.; Kumar,
                                                                                                                                                                                                                                                                                                                                                         1;
                                                                                                                                                                                                                                                                                                                                                                          Score 52;
Pred. No.
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                                                                       and human
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                                                                                                        Taylor, M.E.;
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                                                                       immunodeficiency-associated viruses
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vpu protein - simian immunodeficiency virus SIVagm (type 3, isolate STLV-3agm)
N;Alternate names: orf-X protein
C;Species: simian immunodeficiency virus SIVagm
C;bate: 31-Mar-1989 #sequence_revision 31-Mar-1989 #text_change 31-Jan-1997
C;Accession: D26737
R;Hirsch, V.
submitted to GenBank, June 1987
A;Reference number: A26739
A;Rocession: D26737
A;Rocession: D26737
A;Rocession: D26737
A;Rocession: D26737
A;Rocession: D16737
A;Rocession: D26737
A;Rocession: D26737
A;Rocession: D16737
A;Rocession: D16737
A;Rocession: D172 <HIR>
Search completed: March 2, 2001, 10:55:41 Job time: 261 sec
                                                                                                                       Вb
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                                                                                                                                                                                                                                                                                                                                   C;Genetics:
A;Gene: vpu
C;Superfamily: AIDS vpu protein
C;Keywords: AIDS; immunodeficiency
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A;Cross-references: EMBL:X06391; NID:g61580; PIDN:CAA29688.1; PID:g61581
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, December 1987
C;Superfamily: AIDS vpu protein
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ASLJST
                                                                                                                                                                                                            Query Match 50.5%;
Best Local Similarity 64.3%;
Matches 9; Conservative
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Best Local Similarity 64.3%;
Matches 9; Conservative
                                                                                                                2 HWSYGLRPGRPPPP 15
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94 HRAGGWRPGPPPPP 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 HWSYGLRPGRPPPP 15
| : | ||| ||||
94 HGAGGWRPGPPPPP 107
                                                                                                                                                                                                              Score 51; DB 1; Length 112; Pred. No. 3.5; 1; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 52; DB 2; Length 112; Pred. No. 2.6; 1; Mismatches 4; Indels
                                                                                                                                                                                                              0;
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                                                                                                                                                                                                              0;
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Result
No.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length: 0
length: 2000000000
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Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Issued_Patents_AA:*

1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
      March 2, 2001, 10:54:36; Search time 47.48 Seconds (without alignments) 6.429 Million cell updates/sec
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104
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 US-08-188-223-6
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US-08-690-983D-18
US-07-690-983D-28
US-08-878-748-4
US-08-878-748-4
US-08-878-748-1
US-08-878-748-8
US-09-124-491-8
US-08-878-748-8
US-09-124-491-8
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Sequence 2, Appli
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Sequence 7, Appli
Sequence 7, Appli
Sequence 23, Appli
Sequence 13, Appli
Sequence 18, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 10, Appli
Sequence 11, Appli
Sequence 16, Appli
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Sequence 24, Appli
Sequence 27, Appli
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ALIGNMENTS	US-07-690-983D-26 US-07-690-983D-43 US-07-690-983D-45 US-07-690-983D-47 US-07-690-983D-32 US-07-690-983D-32 US-08-103-022-1 US-08-103-022-1 US-08-103-022-1 US-08-104-935-6 US-08-343-883-1 US-08-343-883-1 US-08-453-588-2 US-08-453-588-2 US-08-453-588-6 US-08-453-588-6 US-08-453-588-6
	Sequence 26, Appl Sequence 43, Appl Sequence 47, Appl Sequence 9, Appli Sequence 2, Appli Sequence 2, Appli Sequence 1, Appli Sequence 1, Appli Sequence 5, Appli Sequence 5, Appli Sequence 11, Appli Sequence 21, Appli Sequence 21, Appli Sequence 21, Appli Sequence 2, Appli Sequence 2, Appli Sequence 4, Appli Sequence 6, Appli Sequence 6, Appli Sequence 6, Appli

OR PER 17
// CATEM: PC_DOS/MS-DOS patentIn Release #1.0, Version #1. ANION DATA: NUMBER: US/08/188,223 : 27-JAN-1994 CON: 424 f INFORMATION: 18 ESQ., Dimittios T. NUMBER: 32,218 OCKET NUMBER: 1102865-300 TION INFORMATION: 212-819-8286 212-819-8286 12-354-8113 SEQ ID NO: 6: ACTERISTICS: amino acids linear linear peptide YES
// STEM: PC-DOS/MS-DOS SatentIn Release #1.0, Version #1. ATION DATA: NUMBER: US/08/188,223 : 27-JAN-1994 [ON: 424 INFORMATION: 427 INFORMATION: 32,218 NUMBER: 32,218 NUMBER: 32,218 INFORMATION: 212-819-8286 FION INFORMATION: 212-819-8286 IL-354-8113 SEQ ID NO: 6: ACTERISTICS: amino acids acid Linear L
SSTEM: PC_DOS/MS-DOS SATENTIN Release #1.0, Version #1. ANTION DATA: NUMBER: US/08/188,223 2.7-2M-1994 FINFORMATION: 18 ESq. Dimitrios T. NUMBER: 32,718 SEG IN UMBER: 1102865-300 TION INFORMATION: 212-819-8286 12-354-8113 SEQ ID NO: 6: 212-819-8286
STEM: PC-DOS/MS-DOS SATENTIN Release #1.0, Version #1. ANTION DATA: NUMBER: US/08/188,223 27-JAN-1994 FINFORMATION: 188 ESG., Dimitrios T. NUMBER: 32,718 NUMBER: 1102865-300 FION TRFORMATION: 101-819-8286 12-354-8113 SEQ ID NO: 6: ACTERISTICS: Amnino acids
/STEM: PC_DOS/MS-DOS SATENTIN Release #1.0, Version #1. ATION DATA: NUMBER: US/08/188,223 : 27-JAN-1994 ION: 424 F INFORMATION: S ESQ. Dimittios T. NUMBER: 32,18 NUMBER: 1102865-300 ITON INFORMATION: 212-819-828 L2-354-8113 SEQ_ID_NO: 6:
OS/MS-DOS ease #1.0, Version #1. 908/188,223 94 94 94 N: itrios T. 2,218 2,218 1102865-300 TION:
OS/MS-DOS ease #1.0, Version #1. 908/188,223 94 N: Litrios T. 2,218 2,218 1102865-300
OS/MS-DOS ease #1.0, Version #1. ;/08/188,223 94 94 N: ittrios T. 2,218
OS/MS-DOS ease #1.0, Version #1. //08/188,223 94 N: N:
OS/MS-DOS ease #1.0, Version #1. /08/188,223 94
OS/MS-DOS ease #1.0, Version #1. /08/188,223 94
OS/MS-DOS ease #1.0, Version #1. V08/188.223
OS/MS-DOS ease #1.0, Version #1.
; MEDIUM TYPE: Floppy disk : COMPUTER: IBM PC compatible
; COMPUTER READABLE FORM:
; COUNTRY: USA : ZIP: 10036-2787
: ::
; CITY: New York
155 Avenue of the Ameri
ADDRESSEE: Dimitrios T. Drivas, Esq.
; NUMBER OF SEQUENCES: 11
771 1-
CANT: Scibienski, Robert
; APPLICANT: Grimes, Stephen
; Sequence 6, Application US/08188223 ; Patent No. 5688506
RESULT 1 US-08-188-223-6

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Query Match
Best Local Similarity
Watches 16; Conserv:
                                                                             NAME/KEY: Region
LOCATION: 11..17
OTHER INFORMATION:
US-08-968-466-6
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                                                                                                                                                                                                                                                                                                                                        TELEFAX: 212-3-3-6:
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
FRIGTH: 17 amino acids
 Best Local Similarity Matches 16; Conserv
                               Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-819-8286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Scibienski, Robert TITLE OF INVENTION: Immunogens TITLE OF INVENTION: Releasing
                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                            MOLECULE TYPE: peptide HYPOTHETICAL: YES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                          HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: 212-0-
TELEPHONE: 212-354-8113
                                                                                                                                                                                                                  OTHER INFORMATION: OTHER INFORMATION:
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OTHER INFORMATION: /note= "spacer"
                                                                                                                                                       OTHER INFORMATION:
                                                                                                                                                                    NAME/KEY: Region LOCATION: 1..10
                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Drivas Esq., Dimitrios T. REGISTRATION NUMBER: 32,218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET:
                                                                                                                                                                                                                                              LOCATION:
                                                                                                                                                                                                                                                               NAME/KEY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 HWSYGLRPGSSPPPPC 17
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GY: linear
ilarity 100.0%;
Conservative
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                                                                                                                                                                                                                                 /label= pGlu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           32,218
                                                                                                                                                                                                                                                                                                                                                                                    6:
Score 103; DB 3; ; Pred. No. 1.9e-07; 0; Mismatches 0;
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Pred. No. 1.9e-07
                                                                                                                                                       "immunomimic"
                                                                                                                                                                                                                "pyroglutamic acid (5-oxoproline)"
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                            DB 3; Length 17;
   0
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 Indels
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                                                                                                                              Matches
                                                                                                                                                            Query Match
Best Local Similarity
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ZIP: 10036-270,
ZIP: 10036-270,
COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
COMPUTER: IBM PC compatible
COMPUTER: TOS/MS-DOS
COMPUTER: TOS/MS-DO
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NAME: Drivas Esq., Dimitrios T.
REGISTRATION NUMBER: 32,218
REFERENCE/DOCKET NUMBER: 110286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
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APPLICANT: Scibienski, Robert
TITLE OF INVENTION: Immunogens
TITLE OF INVENTION: Releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: peptide HYPOTHETICAL: YES
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                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION:
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LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: FILING DATE: 27-JAN CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: Region LOCATION: 11..16
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TELEPHONE: 212-354-8113
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STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH:
2 HWSYGLRPG-RPPPPC 16
                                                               2 HWSYGLRPGSSPPPPC 17
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NO. 5688506
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                                                                                                                              Conservative
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1..10
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                                                                                                                                                            80.3%;
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                                                                                                                                                                                                                                                                                                                    /label= pGlu
/note= "pyroglutamic acid (5-oxoproline)"
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                                                                                                                          Score 83.5; Depred. No. 5.3e
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "immunomimic"
                                                                                                                                                            .3e-05;
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RESULT 4 US-08-968-466-2

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                                                                                                                 US-08-458-814-6
                                                                                    Sequence 6, Application US/08458814 Patent No. 6103243
                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                    Matches
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                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 212-354-8113
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Grimes, Steph
APPLICANT: Scibienski, R
TITLE OF INVENTION: Rimu
TITLE OF INVENTION: Rele
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
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            APPLICANT:
APPLICANT:
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APPLICATION NUMBER: US,
FILING DATE: 27-JAN-19
                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
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NAME: Drivas Esq., Dimitrios T.
REGISTRATION NUMBER: 32,218
REFERENCE/DOCKET NUMBER: 1102865-300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
 TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: Region LOCATION: 11.16 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY:
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                                                                                                                                                                          2 HWSYGLRPGSSPPPPC 17
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2 HWSYGLRPG-RPPPPC 16
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          RUSSELL-JONES, Gregory J
DE AIZPURUA, Henry J
HOWE, Peter
RAND, Keith N
                                                                                                                                                                                                                                    Conservative
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SYSTEM: PC-DOS/MS-DOS
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YES
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87.5%;
ORAL VACCINES
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/note= "pyroglutamic acid
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                                                                                                                                                                                                                                                  Score 83.5;
Pred. No. 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           "immunomimic"
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US-08-458-814-7
; Sequence 7, Application US/08458814
; Patent No. 6103243
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Best Local :
                                                                                                                                     GENERAL INFORMATION:

APPLICANT: RUSSELL-JONES,

APPLICANT: DE AIZPURUA, H

APPLICANT: HOWE, Peter

APPLICANT: RAND, Keith N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: 11 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 60
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202 672 5300
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MEDIUM TYPE: Floppy disk
                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                         TITLE OF INVENTION: ORAL VACCINES NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
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NAME: BENT, Stephen A
REGISTRATION NUMBER: 29,7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: (FILING DATE: 18-OCT-1
CLASSIFICATION: 424
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CORRESPONDENCE ADDRESS:
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TELEFAX: 904136
                             STREET: 3000 K S:
CITY: Washington
STATE: D.C.
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                 37 HWSYGLRPGGDP 48
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CITY: Washington
STATE: D.C.
COUNTRY: USA
ZIP: 20007-5109
                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                             Local
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                                                           E: Foley & Lardner
3000 K Street, N.W.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        52 amino acids
                                                                                                                                                                  RUSSELL-JONES, Gregory J
DE AIZPURUA, Henry J
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14-MAY-1986
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02-JUN-1995
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                                                                                                                                                                                                                                                                                                                                                                                                           Length 52;
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COMPUTER READABLE FORM: MEDIUM TYPE: Floppy

Floppy disk

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLIANCE 15-MAL ATTORNEY/AGENT INFORMATION:
ATTORNEY/AGENT Stephen A
TORNEY ATTORNEY 29,
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
CURRENT APPLICATION UNBER: US/08/453,588
FILING DATE: 30:MAY-1995
                                                                                                          COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 60
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202 672 5300
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ADDRESSEE: Akzo No. 5684145el Patent Department
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LENGTH: 55 amino acids
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PRIOR APPLICATION DATA:
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APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                              APPLICANT: Anna van der Zee, Irma Marianne van Die,
APPLICANT: Willem Pieter Martin Hoekstra,
APPLICANT: Josephus Theodorus Gielen.
TITLE OF INVENTION: Carrier system against GnRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: peptide
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PRIOR APPLICATION NUMBER: PCT/AU86/00135
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/327,822
FILING DATE: 18-OCT-1994
                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
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CITY: Rockville
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TOPOLOGY: un
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                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     39 HWSYGLRPGGDP 50
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 HWSYGLRPGSSP 13
                                                                                                                                                   20850
                                                                                                                                                                  Maryland
Y: U.S.A.
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83.3%;
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<sup>12R</sup>: 60042/155/BIAU
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Pred. No.
                                                                                                                                                                                                                           Suite 206
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; MOLECULE TYPE: US-08-521-079-23
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 258-5200
INFORMATION FOR SEQ ID NO: 23:
SEQUENCE CHARACTERISTICS:
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APPLICATION NUMBER: 08/078
FILING DATE: 16-JUN-1993
ATTORNEY/AGENT INFORMATION:
NAME: MATY E. Gormley
                                                                                                    INFORMATION FOR SEQ ID NO:
                                                                                                                                  REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 14 amino acids
                                                                                                                                                                                        FILING DATE: 18-JUN-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: William M. Blacksto
                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/078,661
FILING DATE: 16-JUN-1993
APPLICATION NUMBER: EPA NO. 6019983 92.201.775.1
                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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ADDRESSEE: Akzo Pharma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Anna van der Zee, Irma Marianne van
APPLICANT: Willem Pieter Martin Hoekstra,
APPLICANT: Josephus Theodorus Gielen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Josephus Theodorus Gielen TITLE OF INVENTION: Carrier system ac
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                                                   LENGTH:
TYPE: a
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CITY: R
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release "."
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                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
                                                                                                                                                                        REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 435
                                                                                                                        TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
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                                                                                                                                                                    William M. Blackstone RATION NUMBER: 29,772
                                              amino acid
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Y: U.S.A.
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RESULT 10
US-07-690-983D-28
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US-07-690-983D-18
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                                                                                                                                                                                                                     Sequence 28, Application US/07690983D Patent No. 5403586
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Best Local S
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                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (202)672-5399
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
APPLICANT: RUSSELL-OVALL,
APPLICANT: STEWART, Andrew G.
APPLICANT: TSONIS, Con G.
TITLE OF INVENTION: FUSION PROTEINS
TITLE OF EFORENCES: 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC DOS/MS-DOS
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FILING DATE: 24 AUG-1990
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 16786/148 CHAC TELECOMMUNICATION INFORMATION: TELEPHONE: (202)672-5300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 435
PRIOR APPLICATION DATA:
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ADDRESSEE: Foley & Lardner
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
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10; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
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100.0%; Pr
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Pred. No. 0.03;
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0.025;
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US-08-387-156-4
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 18 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 24-AUG-1990
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION UNMBER: 29,768
REFERENCE/DOCKET NUMBER: 1678
TELECOMMUNICATION INFORMATION:
                                               SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/387,156
FILING DATE: 10-FEB-1995
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
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ADDRESSEE: REED & ROBINS
                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: GRET OF SPORTS
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PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: POTTER, ANDREW A. APPLICANT: REDMOND, MARK J. APPLICANT: HUGHES, HUW P.A.
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                                                                                                                                                                                                                                                            STREET: 635 BRY/
CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 HWSYGLRPGSS 12
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: UNITED STATES OF AMERICA
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                                                                                                                                                                                                                                                                              635 BRYANT STREET
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24-AUG-1990
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Pred. No. 0.032;
                                                                                                                      Version
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                             Matches
                                           Query Match
Best Local Similarity
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Best Local :
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TELEFAX: (415) 327-3231
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                            TELEFAX: (415)327-323.
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
COMPUTER: BM PC COMPATIBLE
OPERATING SYSTEM: PC DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                        NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 900
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415,327-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GORH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER: 33,208
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
TELEPAX: (415)
                                                                                                                    MOLECULE TYPE: protein
                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
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CITY: F
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                                                                                                                                     TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
TOPOLOGY: linear
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                                                                                                                                                                LENGTH:
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2 HWSYGLRPGS 11,
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3Y: linear
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100.0%; Pred. No.
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Pred. No.
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                                                                            Sequence 4, Application Patent No. 6022960 GENERAL INFORMATION:
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION: 536
PRIOR APPLICATION NUMBER: US 08
APPLICATION NUMBER: US 08
FILING DATE: 10-FEB-1995
               APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GRAH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 90 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-CCT-1992
PRIOR APPLICATION DATA:
APPLICATION UNBER: US 07/779,171
FILING DATE: 16-CCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: POLITIC TORRETOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
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CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
TOPOLOGY: linear
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                                                                                                             Application US/09124491
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; Pred. No.
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Gaps

STREET: 285 HAMI CITY: PALO ALTO

ADDRESSEE: REED & ROBINS LLP STREET: 285 HAMILTON AVENUE, SUITE 200

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RESULT 15
US-08-387-156-10
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Best Local Similarity
""+"hes 10; Conserv:
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                                                                                                                                                                                                                                                                                                                                                 Sequence 10, Application US/08387156 Patent No. 5723129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US 08/387,156
FILING DATE: 10-FEB-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
PRIOR APPLICATION NUMBER: US 07/779,171
APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
NAME: MCCRACKEN, THOMAS P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION DATA:
PRIOR APPLICATION NUMBER: US 08/694,865
APPLICATION NUMBER: US 08/387,156
FILING DATE: 09-AUG-1996
FILING DATE: US 08/387,156
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                         COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                             NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS
                                                                                                                                                                                                                                                   APPLICANT: REDMOND, MARK J.
APPLICANT: HUGHES, HUW P.A.
TITLE OF INVENTION: GRRH-LEUKOTOXIN CHIMERAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (415)327-3400
                                                                                                                                                                                                                                                                                                             APPLICANT:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                     COUNTRY:
                                                                                                                                   CITY: PALO ALTO
STATE: CALIFORNIA
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REFERENCE/DOCKET NUMBER: 9001-0016.22
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                                                                                                                   UNITED STATES OF AMERICA
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100.0%; Pr
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Pred. No.
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Best Local Similarity
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Search completed: March Job time: 601 sec
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TELEFAX: (415) 327-3231
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 544 amino acids
TYPE: amino acid
TOPOLOGY: linear
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APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-0CT-1991
ATTORNEY/AGENT INFORMATION:
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PRIOR APPLICATION NIMBER: US 07/960,932
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                                                                              495 HWSYGLRPGS 504
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                                                                                                                                                                                                                                                                                                                                                                                                               NAME: ROBINS, ROBERTA REGISTRATION NUMBER: 3
                                                                                                             2 HWSYGLRPGS 11
                                                                                                                                                Conservative
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               2, 2001, 10:54:36
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BER: 900
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                                                                                                                                                             Score 62; DB 1;
Pred. No. 0.85;
                                                                                                                                                Mismatches
                                                                                                                                                                           Length 544;
                                                                                                                                                Indels
                                                                                                                                              0;
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Gaps

WASH WANTE TONG SIHL



GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: March 2, 2001, 11:00:47; Search time 97.13 Seconds (without alignments) 20.514 Million cell updates/sec

Title: Perfect score: Sequence: US-09-306-689-4 104 1 XHWSYGLRPGSSPPPPC 17

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

374700 segs, 117207915 residues

Total number of hits satisfying chosen parameters: 374700

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database

SPTREMBL_15:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*

sp_invertebrate:*
sp_mammal:*
sp_mhc:*

p_human:*

sp_organelle:*
sp_phage:*
sp_plant:*
sp_rodent:*

sp_virus:*
sp_vertebrate:*
sp_unclassified:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

19	18	17	16	15	14	<u>1</u> 3	12	11	10	9	8	7	6	u	4	· w	2	1	Result No.
52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	53	58	Score
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Q89552	Q85604	Q07393	Q89827	Q88145	Q88137	Q88131	Q88125	Q88068	Q88064	Q88058	Q88057	Q88050	Q04273	Q91A10	073812	Q9YI26	Q88020	Q9PRH0	ID
Q89552 chimpanzee	Q85604 human t-cel	Q07393 chimpanzee	Q89827 chimpanzee	Q88145 chimpanzee	Q88137 chimpanzee	Q88131 chimpanzee	Q88125 chimpanzee	Q88068 chimpanzee	Q88064 chimpanzee	Q88058 chimpanzee	Q88057 chimpanzee	Q88050 chimpanzee	Q04273 chimpanzee	Q9ia10 dicentrarch	O73812 morone saxa	Q9yi26 sparus aura	Q88020 chimpanzee	Q9prh0 anguilla ja	Description

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לספרס הסעדוופ וופדף	Consol Politica Political	Ognoso homo canion	Q9vw18 drosophila	Q9qm86 human immun		015054 homo sapien	Q9y150 drosophila	Q9n5w3 caenorhabdi	P97543 rattus norv	Q9v435 drosophila	Q9umq7 homo sapien	Q9y3q4 homo sapien	Q9jka7 rattus norv	Q9tv66 oryctolagus	Q9px03 human immun	human	Q9q1s7 human immun		human	human		\sim	094957 homo sapien		Q9vwd2 drosophila	094850 homo sapien

ALIGNMENTS

	Query Match 55.8%; Score 58; DB 13; Length 91; Best Local Similarity 100.0%; Pred. No. 0.22;	Query M
	SIGNAL 1 22 POTENTIAL. CHAIN 23 32 MGRH. CHAIN 33 91 GNRH ASSOCIATED PEPTIDE. SEQUENCE 91 AA; 9893 MW; BA15C9DC08434A7B CRC64;	SO FT FT FT
	AB026991; BAA83597.1; - RO; IPR002012; - PF00446; GnRH; 1. E; PS00473; GNRH; 1.	DR DR DR
	SEQUENCE FROM N.A. SEQUENCE FROM N.A. Okubo K., Suetake H., Aida K.; Okubo K., Suetake H., Aida K.; Okubo K., Suetake H., Aida K.; "A splicing variant for the prepro-mammalian gonadotropin-releasing hormone (prepro-mGnRH) mRNA is present in the brain and various peripheral tissues of the Japanese eel."; Zool. Sci. 16:645-651(1999). Zool. Sci. 16:645-651.	R R R R R R R R R R R R R R R R R R R
••	SEQUENCE FROM N.A. SEQUENCE FROM N.A. TISSUE-BRAIN; Okubo K., Suetake H., Aida K.; Okubo K., Suetake H., Aida K.; "Expression of two gonadotropin-releasing hormone (GnRH) precursor genes in various tissues of the Japanese eel and evolution of GnRH."; Zool. Sci. 16:471-478(1999).	R R R R R R R R R
••	PREPRO-MGNRH PRECURSOR. Anguilla japonica (Japanese eel). Autinoptezygii; Neoptezygii; Teleostei; Anguilliformes; Anguilloidei; Anguillidae; Anguilla. NCBI_TaxID=7937;	200000E
	ILT 1 AND OPPRHO PRELIMINARY; PRT; 91 AA. OPPRHO; O1-MAY-2000 (TrEMBLrel. 13, Created) O1-MAY-2000 (TrEMBLrel. 13, Last sequence update) O1-JUN-2000 (TrEMBLrel. 14, Last annotation update)	RESULT Q9PRH0 ID Q AC Q DT 0 DT 0

0; ¶Gaps

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24

10 32

HWSYGLRPG ||||||||| HWSYGLRPG

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RESULT
Q88020
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Q9Y126
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Best Local
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Acanthomorpha; Acanthopterygii; Percomor
Sparidae; Sparus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9YI26;
01-MAY-1999
01-MAY-1999
                                                                                                                                   Nabissi M.;
Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases
-i-FUNCTION: STIMULATES THE SECRETION OF BOTH LUTEINIZ:
FOLLICLE-STIMULATING HORMONES
-i-FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS
EMBL; AF046801; AAD02427.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=94016835; PubMed=8411355;
Kodama T., Mori K., Kawahara T., Ringler D.J., Desro
Rodanysis of simian imunodeficiency virus sequence
'Analysis of rhesus macaques with simian AIDS.";
J. Virol. 67:6522-6534(1993).
EMBL; L22807; AAA47688.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1996 (TrEMBLrel. 01-JUN-2000 (TrEMBLrel.
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01-NOV-1996
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PFAM; PF00522; VPR; 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Viruses; Retroid viruses; NCBI_TaxID=11723;
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                                                                                   PROSITE;
                                                                                                        INTERPRO; IPR002012; -. PFAM; PF00446; GnRH; 1.
                                                                                                                                                                                                                                                                                         TISSUE=OVARY;
                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=8175;
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9; Conserv
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                                                                Amidation.
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etroid viruses; Retroviridae; Lenti
87
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                    87
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9871
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14,
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Pred. No.
0D2463533D96782A CRC64;
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Euteleostei; Neoteleostei
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073812;
01-AUG-1998
01-AUG-1998
01-OCT-2000
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Q9IA10;
01-OCT-2000
Submitted [2]
                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoid
                                                                                                                                                                                                                                                                                                                                                 01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-CCT-2000 (TrEMBLrel. 15, Last annotation update)
01-OCT-2000 (TrEMBLRel. 15, Last annotation update)
GONADOTROPIN RELEASING HORMONE SEABREAM ISOFORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chow M.M., Kight K.E., Gothilf Y., Alok D., Zohar Y.; Submitted (MAR-1998) to the EMBL/GenBank/DDJ databases. FUNCTION: STIMULATES THE SECRETION OF BOTH LUTEINIZING FOLLICLE-STIMULATING HORMONES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH)
                                          (Gonadotrophin-releasing hormone) messengers European sea bass (Dicentrarchus labrax).";
                                                                                   Gonzalez-Martinez D., Madigou T., Zmora N., Anglade I.,
Zohar Y., Elizur A., Munoz-Cueto J.A., Kah O.;
"Differential expression of three different prepro-GnRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hormone; Amidation. SEQUENCE 95 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS00473; GNRH; PRODOM; PD005581; -; 1.
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Actinopterygii; Neopterygii; Teleostei;
                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                 Dicentrarchus labrax (European sea bass)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -!- FUNCTION: STIMULATES TH
EMBL; AF056314; AAD03817.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Morone saxatilis (Striped bass).
                                                                                                                                                     TISSUE=BRAIN;
                                                                                                                                                                                                                                             Moronidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=34816;
                                                                                                                                                                                                                    NCBI_TaxID=13489;
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24 HWSYGLSPG
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PF00446; GnRH;
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8; Conserv
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8; Conser
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SEQUENCE FROM N.A.

X MEDLINE-94016835; PubMed-8411355;
X Kodama T., Mori K., Kawahara T., Ringler D.J., Desrosie

*Analysis of simian immunodeficiency virus sequence var

*Analysis of ribesus macaques with simian AIDS.";
XI Liviol. 67:6520-6534(1993).

BR EMBL; L22804; AAA47679.1; -.

DR EMBL; L22804; AAA47679.1; -.
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"3 GnRH form in the seabass Di-
Submitted (JAN-2000) to the EMH
EMBL; AF224279; AAF62898.1; -.
SEQUENCE 99 AA; 10758 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chimpanzee immunodeficiency virus (SIV(cpz)) (CIV) Viruses; Retroid viruses; Retroviridae; Lentivirus NCBI_TaxID=11723;
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SEQUENCE
                                                                         tissues of rhesus macaques with J. Virol. 67:6522-6534(1993). EMBL; L22792; AAA47643.1; -.
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Kodama T., Mori K., Kawahara T., Ring
"Analysis of simian immunodeficiency
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Kodama T., Mori K., Kawahara T., Ringler D.J., Desro Rodama T., Mori K., Kawahara T., Ringler D.J., Desro Rodama T., Mori K., Kawahara T., Ringler D.J., Desro "Analysis of simian immunodeficiency virus sequence tissues of rhesus macaques with simian AIDS.";
J. Virol. 67:6522-6534(1993).
J. Virol. 67:6522-6534(1993).
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PRINTS; PR00444; HIVVPRVPX.
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EMBL: L22795; AAA47652.1; -.

INTERPRO; IPRO00012; -.
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EMBL; L03296; AAA47763.1; -
INTERPRO; IPRO00012; -
PPAM; PP00522; VPR; 1.
PRINTS; PR00444; HIVVPRVPX.
SEQUENCE 112 AA; 12877 M
                                                              SIVSMM-PBj14.";
Nature 345:636-640(1990).
EMBL; L03297; AAA47771.1; -
INTERPRO; IPRO00012; -
PFAM; PF00522; VPR; 1.
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01-NOV-1996
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                                                                                                          MEDLINE=90272009; PubMed=1971917;
Dewhurst S., Embretson J.E., Anderson D.C.,
"Sequence analysis and acute pathogenicity
                                                                                                                                                     Chimpanzee immunodeficiency virus (SIV(cpz))
Viruses; Retroid viruses; Retroviridae; Lent.
NCBI_TaxID-11723;
                                            PRINTS; PR00444; SEQUENCE 112 A
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2 HWSYGLRPGSSPPPP 16 | : | ||| |||| 94 HGAGGWRPGPPPPPP 108

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SEQUENCE FROM N.A.

MEDLINE=90272009; PubMed=1971917;

MEDLINE=90272009; PubMed=1971917;

Dewhurst S., Embretson J.E., Anderson D.C., Mullins J.I., Fultz P.N.;

Sequence analysis and acute pathogenicity of molecularly cloned sive sive stream of the stream of the
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Q1-NOV-1996
Q1-JUN-2000
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MEDILINE-92124755; PubMed-1733112;

MEDILINE-92124755; PubMed-1733112;

Novembre F.J., Hirsch V.M., McClure H.M., Fultz P.N., Johnson P.R.;

Novembre F.J., Hirsch V.M., McClure H.M., Fultz P.N., Johnson P.R.;

*SIV from stump-tailed macaques: molecular characterization of a highly transmissible primate lentivirus.";

Virology 186:783-787(1992).

EMBL; M83293; AAA91942.1; -.

INTERPRO; IPRO00012; -.

INTERPRO; IPRO00012; -.

PEAM; PF00522; VPR; 1.
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Copyright (c) 1993 - 2000 Compugen Ltd
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GONI_CHICK
GONI_BABU
GONI_FABBU
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GONI_FABAU
VPX_SIVMK
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DE I. AL FOR BIOLOGICAL	ion; Hypot	through a collaborati d the EMBL outs tion no restrictions no is content is in no w by and for commerci www.isb-sib.ch/announc	M., Rivier J., nizing hormone- romatography-mass OPINS; IT STIMULATE -STIMULATING	a; Euteleostomi; Pecora; Bovoidea; abases.	RIN I (LHRH I) ROPIN RELEASING		P55246 oncorhynchu Q92097 oncorhynchu P30973 oncorhynchu P30973 oncorhynchu P35629 salmo salar P45652 salmo trutt P51922 porichthys P45652 haplochromi P51921 pagrus majo P51923 sparus aura P51917 carassius au Q92106 rutilus rut P19615 strongyloce

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30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LI-
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN REI
HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE
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-!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS;
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Mesocricetus auratus (Golden hamster).
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p55247;
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01-CCT-1996 (Rel. 34, Created)
01-CCT-1996 (Rel. 34, Last sequence update)
01-CCT-1996 (Rel. 39, Last annotation update)
30-MAY-2000 (Rel. 39, Last annotation update)
pRGCONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
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-I- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STITLE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
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MEDLINE=95124501; PubMed=7545971;
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Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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GNRH-ASSOCIATED PEPTIDE
APPEARS TO BE ESSENTIAL
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AMIDATION (G-16
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PROGONADOLIBERIN
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RESULT 5
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01-JAN-1990 (Rel. 13, Last sequence update)
01-AN-1990 (Rel. 39, Last annotation update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING FROMONE I) (GURH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING FROMONE I)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentitles requires a license agreement (See http://www.isb-sib.ch/an or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hayes W.P., Wray S., Battey J.F.;
"The frog gonadotropin-releasing hormone-I (GnRH-I) gene
mammalian-like expression pattern and conserved domains i
GnRH-associate peptide, but brain onset is delayed until
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
                                                                                                              GON1_MOUSE
P13562;
                                                                                                                                                                                                                                                                                                                                                                                                                           Cleavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GON1_XENLA
P45656;
   Mus musculus
               GNRH1 OR
                                                                                                                                                                                                                                                                                                                                                                                                    SIGNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=94185563;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata;
Amphibia; Batrachia; Anura; Me
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (LH-RH) (LULIBERIN I).
Xenopus laevis (African clawed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          XENLA
                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            L28040; AAA49728.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   PF00446; GnRH; 1.
                                                                                                                                                                                                                                                 Similarity
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               GNRH
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  (Mouse)
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of basic :
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                                                                                                                                                                                                                                                                                                                                                                                                                           residues;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a; Craniata; Vertebrata;
mesobatrachia; Pipoidea
                                                                                                                                                                                                                                                 Score 58;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                             PROGONADOLIBERIN I.
GONADOLIBERIN I.
GONADOTROPIN-RELEASING
                                                                                                                                                                                                                                                                                               PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-34 PROVIDE AMIDE GROUP).
6F4F36FBAE0D4284 CRC64;
                                                                                                                                                                                                                                                                                                                                      GNRH-ASSOCIATED PEPTIDE I
                                                                                                                                                                                                                                                                                                                                                   PEPTIDE
                                                                                                                          PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        frog)
                                                                                                                                                                                                                                      Mismatches
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                                                                                                                                                                                                                                                                                                                                      (GAP).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL outstation
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                                      FACTOR
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RESULT
GON1_PIG
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Best Local
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P49921;
01-OCT-1996
01-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOD_RES
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                  P49921;
01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
CLUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
LUTEINIZING HORMONE RELEASING I); GNRH-ASSOCIATED PEPTIDE I].
                    SEQUENCE OF 24-33. MEDLINE=72114303;
                                                                                                                                                                                                  Sus scrofa (Pig).
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PEPTIDE
PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            responsible for hypogonadism in the hpg mascience 234:1366-1371(1986).
-!- FUNCTION: STIMULATES THE SECRETION OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    phillips H.S., Nikolics K., Seeburg P.H.;
"A deletion truncating the gonadotropin-releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mason A.J., Hayflick J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=87069928;
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Mammalia; Eutheria;
                                                                                 Submitted
                                                                                                  rissue=HYPOTHALAMUS;
weesner G.D., Matter
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                                                                                                                                            SEQUENCE FROM
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9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SECRETION OF BOTH LUTEINIZING
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  Matsuo H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PS00473;
                                                                             .D., Matteri (MAY-1994) t
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PubMed=4946067;
., Schally A.V.;
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Rodentia;
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                                                                             Becker B.A.;
EMBL/GenBank/DDBJ
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Pred. No.
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GONADOLIBERIN I.
PROLACTIN RELEASE-INHIBITING
APPEARS TO BE ESSENTIAL FOR I
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0.22;
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RESULT 7
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Best Local
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01-APR-1988
30-MAY-2000
Mammadia;
                                                             HORMONE I)
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MOD_RES
SEQUENCE
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SIGNAL
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                                                                       21-JUL-1986 (Rel. 01, Created)
01-APR-1988 (Rel. 07, Last sequence update)
30-AAY-2000 (Rel. 39, Last annotation update)
30-MAY-2010 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR (CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GNRH I) (LULIBERIN I) (GONADORELIN); GNRH-ASSOCIATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the El the European Bioinformatics Institute. There are no resti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matsuo H., Arimura A., Nair R.M.G., Schally A.V.; "Synthesis of the porcine LH- and FSH-releasing hormone by the solid-phase method.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biochem.
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                       Homo sapiens (Human)
Eukaryota; Metazoa;
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                                                                                                                                                   P01148;
                                                                                                                                                               GON1_HUMAN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         or send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Structure of the porcine LH- and FSH-releasing hormone. II. Confirmation of the proposed structure by conventional sequential
                                                 GNRH1 OR GNRH OR LHRH.
                                                                                                                                                                                                                                                                                                                                                                                           ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                 CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cleavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INTERPRO;
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                                                                                                                                                                                                                                                                                           Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a Y., Arimura A., Schally A.V.;
the tryptophan residue in porcine LH and FSH
chem. Biophys. Res. Commun. 45:483-487(1971).
FUNCTION: STIMULATES THE SECRETION OF GONADO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: BELONGS TO THE GNRH FAMILY.
                                                                                                                                                                                                                                                      HWSYGLRPG
                                                                                                                                                                                                                             HWSYGLRPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 non-profit institutions as long as its content is in no way and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PS00473; GNRH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IPR002012; -.
0446; GnRH; 1.
              Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OF GONADOLIBERIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   00473; GNRH; 1. pair of basic
                                                                                                                                                                                                                                                                               Conservative
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                                                                                                                                                                STANDARD;
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              Primates;
                       Chordata;
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100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    residues; Hormone; Amidation; Hypothalamus;
                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                         Score 58;
Pred. No.
                                                                                                                                                                                                                                                                                                                                        PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-34 PROVIDE AMII
8340474F32DDAA99 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                          APPEARS
                                                                                                                                                                                                                                                                                                                                                                                                       GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                  PROGONADOLIBERIN I. GONADOLIBERIN I.
                                                                                                                                                                                                                                                                                                                                                                               ACTIVITY
             Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                PRT;
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FOR
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EMBL; X01059;
EMBL; M12578;
EMBL; X15215;
MOD_RES
MOD_RES
CONFLICT
SEQUENCE
                                                                                                                                                                    MIM;
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PIR;
PIR;
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                                                                                                                                                                                                                                                                                                                         This
                                                                                                                                                                                                                                                                                                                                                                                                  of gonadotropin-releasing hormone and prolactin factor in human and rat ":
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-89366682; pubMed-2671939; Hayflick J.S., Adelman J.F., Seebu "The complete nucleotide sequence hormone gene.";
                                                                                                                                                                                                                                                                                                 between the Swiss Institute of Bioinf
the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=83126573; F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   releasing hormone.";
Nature 311:666-668(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE~85012739; PubMed=6090951; Seeburg P.H., Adelman J.P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-86094338; PubMed-2867548;
Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.;
"Isolation of the gene and hypothalamic cDNA for the common
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. MEDLINE-86094338;
                                                                                        CHAIN
                                                                                                  SIGNAL
                                                                                                              Placenta;
                                                                                                                         Cleavage
                                                                                                                                    PROSITE;
                                                                                                                                                PFAM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Characterization of cDNA releasing hormone.":
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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                                                       ACT_SITE
                                                                   PEPTIDE
                                                                                                                                                        INTERPRO;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                             ; A01410; RHHUG.
; A26173; A26173.
; S05308; S05308.
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                                                                                                                                                                                                                                                                                                                                                                                PHARMACEUTICAL:
                                                                                                                                                                                                                                                                                                                                                                    LUTREPULSE
                                                                                                                                                                                                                                                                                                              SWISS-PROT entry is copyright. It is produced through sen the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                    152760;
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                                                                                                                         on
                                                                                                                                    PS00473; GNRH;
                                                                                                         2500473; GNRH; 1.

on pair of basic residues; Hormone; Amidation; Hypothalamus; Pharmaceutical; Signal.
                                                                                                                                                         IPR002012;
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AAA35916.1; -.
CAA33285.1; -.
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                                                                                                                                              GnRH;
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Juence of
                                 APPEARS TO BE ESSENTIAL FOR ACTIVITY.
PYRROLIDONE CARBOXYLIC ACID
AMIDATION (G-34 PROVIDE W -> S (IN REF. 3). 30A72221B076FA79 CRC64
                                                                  GNRH-ASSOCIATED
                                                                              GONADOLIBERIN I.
                                                                                        PROGONADOLIBERIN
                                                                                                                                                                                                                                                                                                                                                                    PHARMACEUTICALS)
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human gonadotropin-releasing
                                                                  PEPTIDE
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                        AMIDE GROUP)
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FOR BIOLOGICAL
                                                                                                                                                                                                                                                                                                    restrictions
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Query Match Best Local S Matches 9

Similarity 9; Conser

Conservative

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Mismatches . NO.

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Score Pred.

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Bond C.T., Hayfilck J.S., Seeburg P.H., Adelman J.P.
Bond ponadotropin-releasing hormone: SH locus:
hypothalamic expression.";
hypothalamic sypression.";
hypothalamic sypression.";
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01-APR-1988 (Rel. 07, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
01-OCT-2000 (Rel. 40, Last annotation update)
PROGONADOLIBERIN I PRECURSOR (CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GNRH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING F/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GON1_RAT P07490;
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              PIR;
PIR;
                                                                              EMBL;
                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a detween the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and formaticial content is modified and this statement is not removed.
                                                                                                                                                                                                                                                                                     Science 235:1514-1517(1987).
-!- FUNCTION: STIMULATES THE THE SECRETION OF BOTH LUI
                                                                                                                                                                                                                                                                                                                             DNA locus.";
                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 1-47 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                          Maier C.C., Marchetti B., Leboeuf R.D., Blalock "Thymocytes express a mRNA that is identical to luteinizing hormone-releasing hormone mRNA."; Cell. Mol. Neurobiol. 12:447-454(1992).
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                                                                                                                                    or send
                                                                                                                                                                                                                                                                                                                                                        MEDLINE-87149087; PubMed-3547652; Adelman J.P., Bond C.T., Douglass J.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=93105480;
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Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.
"Isolation of the gene and hypothalamic cDNA for the
of gonadotropin-releasing hormone and prolactin relea
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                                                                                                                                                                                                                                                                                                                                          "Two mammalian genes transcribed
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                      L; $50870; AAB24572.1; -.

JI; M12579; AAA41263.1; -.

L; M31670; AAA41264.1; -.

SL; M15527; AAA42141.1; ALT_SEQ.

JI; M15529; AAA42139.1; -.

L; M15529; AAA42139.1; -.

L; M15529; RHRTG.
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|HWSYGLRPG
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                                                                                                                                  s requires a license agreement (See an email to license@isb-sib.ch).
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          A48410.
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Rodentia;
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                                                                                                                                                                                                                                             TO THE GNRH FAMILY.
                                                                                                                                                                                                                                                           CENTRAL NERVOUS
                                                                                                                                                                                                                                                                                     THE SECRETION LUTEINIZING P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                          from opposite strands
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FOLLICLE-STIMU
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      hypothalamic
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; Murinae; Rat
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commercial
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RESULT 9
GON1_TUPGB
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                                 Placenta;
SIGNAL
CHAIN
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PEPTIDE
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Q95335;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gen.
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PEPTIDE
                                                                                                                                                                                                                                                   entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tupaia glis belangeri (Common tree shrew).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Scandentia; Tupaiidae; Tupaia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GNRH1 OR GNRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLLBERIN I PRECURSOR (CONTAINS: GONADOLIBERIN I
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIGNAL
CHAIN
                                                                                                                                    Cleavage
                                                                                                                                                    PFAM; PF00446; GnRH; 1. PROSITE; PS00473; GNRH;
                                                                                                                                                                                                                EMBL; U63326; AAB16837.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                placental mammal."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fernald R.D.;
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                                                                                                                                                                                              INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  first direct evidence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Characterization of two new preproGnRH irst direct evidence for mesencephalic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION:
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9; Conser
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on pair of
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              Signal
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                                                                                                                                  pair of
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ilarity 100.0%;
Conservative
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STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
TION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΑĀ;
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              PROGONADOLIBERIN I.
GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE
APPEARS TO BE ESSENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 58;
Pred. No.
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AMIDATION (G-34 PROVIDE AMIDE GROUP).
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O BE ESSENTIAL FOR BIOLOGICAL
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0.23;
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                                                                                                                                  Amidation; Hypothalamus;
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RELEASING
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Matches 8
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Best Local
                                                                                                   P37042; P20407;
01-FEB-1991 (Rel. 17, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
01-JUN-1994 (Rel. 29, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOTIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
LUGRMONE I) (GNRH I) (LULLBERIN I); GNRH-ASSOCIATED PEPTIDE I].
                                                                                                                                                                                                                                                                                   CHICK
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MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lovejoy D.A., Fischer W.H., Parker D.B., McRory J.E., Park M., Lance V., Swanson P., Rivler J.E., Sherwood N.M.;
"Primary structure of two forms of gonadotropin-releasing hormone from brains of the American alligator (Alligator mississippiensis).";
Regul. Pept. 33:105-116(1991).
-I- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alligator mississippiensis (American alligator).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Archosaufia; Crocodylidae; Alligatorinae; Alligator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-FEB-1991 (Rel. 17, Created)
01-FEB-1991 (Rel. 17, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
GONADOLIBERIN I (GONADOTROPIN-RELEASING HORMONE
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                                                            Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata;
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01-FEB-1991 (Re
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MEDLINE=91352338; PubMed=1882082;
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9; Conser
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8; Conser
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                                      Neognathae;
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Pred. No. 0.08
1; Mismatches
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AMIDATION (G-34 PROVIDE AMIDE G SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PYRROLIDONE CARBOXYLIC AMIDATION. 284B23D7286B45A3 CRC64;
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Pred. No.
                                    Craniata; Vertebrata; Eute; Galliformes; Phasianidae;
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                                                               Euteleostomi;
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Best Local :
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01-OCT-1996 (Rel
30-MAY-2000 (Rel
30-MAY-2000 (Rel
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Characterization of the chicken hormone-I gene.";
J. Mol. Endocrinol. 11:19-29(1993)
                                                                                                                                                                                                                                                                                                                                           EMBL; X69491; CAA47
PIR; S33507; S33507
                                                                                                                                                                                                                                                                                                                                                                                       use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and for entitles requires a license agreement (See http://www.isb-sib
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-HYPOTHALAMUS;
King J.A., Millar R.P.;
"Structure of avian hypothalamic gonadotrophin-releasing hormone.";
S. Afr. J. Sci. 78:124-125(1982).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=HYPOTHALAMUS;
MEDLINE=82265778; PubMed=7050119;
King J.A., Millar R.P.;
                                                                                                                                                                                                                                                                                                                                                                               or send an email t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          J. Biol. Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hormone. I. Structural
material.";
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King J.A., Millar R.P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SYNTHESIS OF 24-33.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=94059355; PubMed=7902095;
Dunn I.C., Chen Y., Hook C., Sharp P.J., Sang H.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
STRAIN-WHITE LEGHC
 GONADOLIBERIN
                                                                                                                                                                                                                                                                    CHAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Structure of chicken hypothalamic luteinizing hormone. II. Isolation and characterization."; J. Biol. Chem. 257:10729-10732(1982).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Structure of chicken hypothalamic luteinizing
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                                                                                                                                  2 HWSYGLRPG 10
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                                                                                                                                                                                                                                                                                                                          PF00446; GnRH;
                                                                                                                                                                                                                                                                                                                                                                               an email to license@isb-sib.ch).
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39,
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88.9%;
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(GONADOTROPIN-RELEASING
                                                                                                                                                                                                                                                                                                    residues;
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                                                                                                                                                                 Score 54;
Pred. No.
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GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE I.
PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-34 PROVIDE AMIDE GROUP
61AEB7EBAF508B6A CRC64;
                                                                                                                                                        Pred. No. 0.7
l; Mismatches
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                    update)
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HORMONE
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(GNRH-I)
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                                                                                                                                                                                                                                                                                                                      PEPTIDE
PEPTIDE
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                                                                                                                                                                                                                                                               CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content use by non-profit institutions as long as its content use the second content uses the secon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GnRH) in cichlid pituitary; three forms of and pumpkinseed fish,"; Regul. Pept. 57:43-53(1995).
-i- FUNCTION: STIMULATES THE SECRETION OF THE RESPONSIBLE FOR THE REGULATION OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-PITUITARY;
MEDLINE-95372591; pubMed-7644702;
Powell J.F.F. Fischer W.H., Park
White S.A., Francis R.C., Fernald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=95396797; PubMed=7667296; White S.A., Kasten T.L., Bond C.T., Adelman J.P., "Three gonadotropin-releasing hormone genes in on novel roles for an ancient peptide."; Proc. Natl. Acad. Sci. U.S.A. 92:8363-8367(1995).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Primary structure of solitary form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sherwood N.M.;
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24
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TISSUE SPECIFICITY:
                              HWSYGLRPG
HWSYGLSPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PF00446; GnRH;
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                                                                                                              Similarity
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                                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                 GONADOLIBERIN I.

GNRH-ASSOCIATED PEPTIDE I (E
PYRROLIDONE CARBOXYLIC ACID
AMIDATION (G-33 PROVIDE AMII
ENGHRTFKK -> KMDTGHSNNERFL (
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Pred.
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ng neurons in the
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AMIDE GROUP).

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RESULT 13
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P70074;
                 (LH-RH I) (LULIBERIN I) (SBGNRH).
Sparus aurata (Gilthead sea bream).
Subarus aurata (Gilthead sea bream).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; l
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Percifo
                                                                                                                 01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
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SIGNAL
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15-JUL-1998 (Rel. 36, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
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SIMILARITY: BELONGS TO THE GNRH FAMILY.
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Teleostei;
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GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE
PYRROLIDONE CARBOXYLIC A
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P05917;
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MEDLINE=87287230; PubMed=3649576;
MEDLINE=17287230; Guyader M., Alizon M.,
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[2]
                    Chakrabarti L., Guyader M., Alizon M., Daniel M.D., Desrosic Tiollals P., Sonigo P., "Sequence of simian immunodeficiency virus from macaque and relationship to other human and simian retroviruses."; Nature 328:543-547(1987).
                                                                                                                                                                                                                     Simian immunodeficiency virus (Mm142-83 isolate) (SIV-MAC). Viruses; Retroid viruses; Retroviridae; Lentivirus.
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01-OCT-1989
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Proc. Natl. Acad. Sci. U.S.A. 91:12081-12085(1994).
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Powell J.F.F., Zohar Y., Elizur A., Park M., Fischer W.H.,
Craig A.G., Rivier J.E., Lovejoy D.A., Sherwood N.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=95268499; PubMed=7749463; Gothilf Y., Elizur A., Chow M., Chen T.T., Zohar Y.; "Molecular cloning and characterization of a novel gonadotropin-releasing hormone from the gilthead seabream (Sparus aurata)."; Mol. Mar. Biol. Biotechnol. 4:27-35(1995).
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SEQUENCE FROM N.A.
TISSUE=BRAIN;
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GONADOLIBERIN I.
GONAPOLIBERIN I.
PYRROLIDONE CARBOXYLIC ACID.
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Best Local
                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                           EMBL; Y00277; CAA68382.1; PIR; D28887; ASLJX3. HIV; M16403; VPX$MM142.
                                                                                                                         SEQUENCE
                                                                                                                                       AIDS.
                                                                                                                                                    PRINTS; PR00444; HIVVPRVPX.
                                                                                                                                                                  PFAM; PF00522; VPR; 1
                                                                                                                                                                              INTERPRO;
94
HGAGGWRPGPPPPPP
                         HWSYGLRPGSSPPPP 16
                                                   Similarity 9; Conserv
                                                                                                                                                                              IPR000012;
                                                                                                                         112 AA;
                                                     Conservative
                                                                                                                         12906 MW;
108
                                                                50.0%;
                                                                Score 52;
Pred. No.
                                                                                                                         46F564F45AFFD960 CRC64;
                                                     Mismatches
                                                                               DB 1;
                                                                .6
                                                     5
                                                                               Length 112
                                                     Indels
                                                     0,
                                                   Gaps
                                                     0
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Search completed: March 2, 2001, 11:01:20 Job time: 435 sec



GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: March 2, 2001, 10:55:39; Search time 56.87 Seconds (without alignments) 20.297 Million cell updates/sec

Title: Perfect score: Sequence: US-09-306-689-4 104 1 XHWSYGLRPGSSPPPPC 17

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

195891 seqs, 67900655 residues

Searched:

Total number of hits satisfying chosen parameters: 195891

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_66:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	6 0	7	0	տ	4	ω	2	1	Result
47	48	48	48	48	48	48	48	49	49	50	50	50	50	51	51	52	52	52	52	54	54	58	58	58	58	58	58	58	Score
45.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	47.1	47.1	48.1	48.1	48.1	48.1	49.0	49.0	50.0	50.0		50.0	1	:	55.8	5	5	55.8	5	5	55.8	Query Match
199	1091	969	833	676	432	300	80	2129	775	112	112	112	112	862	112	112	112	106	86	92	10	92	92	90	89	67	10	10	Length
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S14981	T13170	T15446	G75621	VCMVPV	A25483	S41171	RHID1S	T27431	E83400	S53094	S12155	ASLJCX	ASLJX2	T46289	ASLJST	S03066	ASLJX3	A30996	I50739	I50644	RHAQ1	RHRTG	RHHUG	RHMSG	I51423	178541	RHSHG	RHPGG	ID
extensin class I (diaphanous protein	hypothetical prote	arylesterase/monox	env polyprotein pr	env polyprotein, r	G	gonadoliberin I pr	hypothetical prote	ol i		protein -	protein -		ļ		gene X protein - h	S.	orf-X protein - si		gonadoliberin I pr						pr	,	gonadoliberin – pi	Description

A; Accession: A93780

gonadotropin-relea	I51365	N	82	43.3	45	
gonadotropin-relea	I51180	N	82	43.3	45	
gonadotropin relea	I51092	N	74	43.3	45	ω
gonadoliberin – ch	A21114	ν	10	43.3	45	2
gastric mucin MUC!	JE0095	2	1373	44.2	46	_
DNA-binding prote	T02029	N	546	44.2	46	0
drought-induced pr	T09742	N	422	44.2	46	9
homeotic protein	S09257	۲	309	44.2	46	8
hypothetical prote	S74928	2	256	44.2	46	37
hypothetical prote	T35751	N	181	44.2	46	36
early light-induce	T02034	N	157	44.2	46	5
hydroxyproline-ric	S59482	N	30	44.2	46	34
WD40 WEB-1 homolog	в71610	N	1438	45.2	47	33
gibberellin 20-ox	T01751	N	367	45.2	47	N
aldose reductase-	T48188	N	320	45.2	47	_
aldehyde reductase	A59021	N	316	45.2	47	0

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A; Molecule type: protein
A; Molecule type: protein
A; Residues: 1-10 <BUR>
A; Residues: 1-10 <BUR>
A; Residues: This hypothalamic hormones have the same biological activity
C; Comment: This hypothalamic hormone stimulates the secretion of both lutein
C; Superfamily: gonadoliberin
C; Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F; 1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F; 10/Modified site: amidated carboxyl end (Gly) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Ma, Y.J.; Costa, M.E.; Ojeda, S.R. Neuroendocrinology 60, 346-359, 1994 A;Title: Developmental expression of the A;Reference number: IS8134; MUID:95124501 A;Accession: 178541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Species: Macaca mulatta (rhesus macaque)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C;Accession: I78541
Š
                                                                                                                        A; Gene: GnRH-I
C; Superfamily:
                                                                                                                                                                                              A; Molecule type: DNA
A; Residues: 1-89 <HAY>
                                                                                                                                                                                                                                                                   R:Hayes, W.P.; Wray, S.; Battey, J.F. Endocrinology 134, 1835-1845, 1994
A;Title: The frog GnRH-I gene has a mammalian-like A;Reference number: I51423; MUID:94185563
                                                                                                                                                                                                                                                                                                                                                        N;Alternate names: luteinizing hormone releasing hormone C;Species: Xenopus laevis (African clawed frog) C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_
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C;Superfamily: gonad
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A; Residues: 1-67 < RES>
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                                                                                                                                                                                                                                                                                                                                                                                                               gonadoliberin precursor - African clawed frog
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Best Local
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9; Conser
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Pred. No.
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Pred. No.
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2;
0.36;
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0.054;
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secretion of both luteinizing
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R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Se
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic
A;Reference number: A94090; MUID:86094338
A;Accession: A26173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Species: Homo sapiens (man)
C;Date: 17-Mar-1987 #sequence_revision 21-Jul-1995 #text_change 18-Jun-1999
C;Accession: S05308; A26173; A93342; A90108; A01410; S45718
R;Hayflick, J.S.; Adelman, J.P.; Seeburg, P.H.
Nucleic Acids Res. 17, 6403-6404, 1989
A;Title: The complete nucleotide sequence of the human gonadotropin-releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gonadoliberin precursor - human
yolklernate names: gonadotropin releasing hormone (GnRH); luteinizing
N;Contains: gonadoliberin-associated protein (GAP); progonadoliberin
C;Species: Homo sapiens (man)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Mason, A.J.; Hayflick, J.S.; Zoeller, R.T.; Young III, W.S.; Phillips, H.S.; Nikoli Science 234, 1366-1371, 1986
A;Tille: A deletion truncating the gonadotropin-releasing hormone gene is responsible A;Reference number: A47578; MUID:87069928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N;Alternate names: gonadotropin-releasing hormone (GnRH); luteinizing hormone releasi
N;Contains: gonadoliberin; gonadoliberin-associated protein (GAP)
C;Species: Mus musculus (house mouse)
C;Date: 31-Dec-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
A; Title: Characterization of cDNA for precursor A; Reference number: A93342; MUID:85012739
                                                 R; Seeburg, P.H.; Adelman, J.P. Nature 311, 666-668, 1984
                                                                                                                    A; Molecule type: mRNA
A; Residues: 1-92 <ADE>
A; Cross-references: GB: M12578; NID: g183418;
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A; Residues: 1-90 <MAS>
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                                                                                             A; Experimental source: hypothalamus
                                                                                                                                                                                                                                                                                                       A;Cross-references: EMBL:X15215; NID:g31955; PIDN:CAA33285.1; R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H.
                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-92 <HAY>
                                                                                                                                                                                                                                                                                                                                                                                                    A; Status: translation not shown
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gonadoliberin-associated protein may have prolactin release inhibiting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                45/3; 77/3
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9; Consert
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S05308; MUID:89366682
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of the human gonadotropin-releasing
                                                                                                                            PIDN: AAA35916.1;
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                         of human luteinizing
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A; Accession: bzull
A; Accession: bye: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Cross: references: GB: M12579; NID:g204445;
A; Maier, C.C.; Marchetti, B.; LeBoeuf, R.D.;
Cell. Mol. Neurobiol. 12, 447-454, 1992
Cell. Mol. Neurobiol. 12, 347-454, 1992
MINIOR REPORT REPO
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C; Reywords: amidated carboxyl end; hormone; hypothalamus;
F; 1-23/Domain: signal sequence #status predicted <PGN>
F; 24-92/Product: progonadoliberin #status predicted <PGN>
F; 24-33/Product: gonadoliberin #status experimental <MAT>
F; 37-92/Product: gonadoliberin #status experimental *status F; 24/Modified site: pyrrolidone carboxylic acid (Gln) (in F; 33/Modified site: amidated carboxyl end (Gly) (amide in
                                                                                                                                                                                                                                                                                  A; Molecule type: DNA A; Residues: 1-92 <BONN A; R; Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H. Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986 A; Title: Isolation of the gene and hypothalamic cDNA for the A; Reference number: A94090; MUID:86094338 A; Accession: B26173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N;Alternate names: gonadoliberin-associated protein (GAP); gonadotropin releasing %;Contains: gonadoliberin; prolactin release-inhibiting factor C;Species: Rattus norvegicus (Norway rat) C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 18-Jun-1999 C;Accession: A40147; B26173; A48410 R;Bond, C:T.; Hayflick, J.S.; Seeburg, P.H.; Adelman, J.P. Mol. Endocrinol. 3, 1257-1262, 1989 A;Title: The rat gonadotropin-releasing hormone: SH locus: structure and hypothala A;Reference number: A40147; MUID:89384661 A;Accession: A40147.
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C; Function:
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A;Cross-references: GDB:133746; OMIM:227200; OMIM:152760
A;Map position: 8p21-8p11.2
A;Introns: 47/3; 79/3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: protein A; Residues: 24-33 <TAN>
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A; Title: The chemical identity of the immunoreactive
A; Reference number: A90108; MUID:83126573
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A; Residues: 1-15, 'S', 17-92 <SEE>
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le: Thymocytes express
number: A48410;
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A;Title: Characterization of the chicken | A;Reference number: ISO644; MUID:94059355 A;Accession: ISO644 A;Status: translated from GB/EMBL/DDBJ

R;Dunn, I.C.; Chen, Y.; Hook, C.; J. Mol. Endocrinol. 11, 19-29, 199 A;Title: Characterization of the C

1993

Sharp,

P.J.;

sang,

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preprogonadotrophin-releasing

hormone-I gene

21-Feb-1997 #text_change

16-Jul-1999

C;Species: Gallus gallus (chicken)
C;Date: 21-Feb-1997 #sequence_revision
C;Date: 150444; S33507

gonadoliberin I precursor - chicken
N;Alternate names: gonadotropin-rel

gonadotropin-releasing hormone

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A;Cross-references: GB:S50870; NID:g262059; PIDN:AAB24572.1; PID:g262060
A;Experimental source: thymus
A;Note: sequence extracted from NCBI backbone (NCBIN:121082, NCBIP:121083)
C;Genetics:
A;Introns: 47/3; 79/3
C;Function: stimulates pituitary secretion of lutropin and follitropin
A;Note: gonadoliberin-associated protein may have prolactin release inhibit
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglu
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-92/Product: progonadoliberin #status predicted <GLN>
F;3-32/Product: gonadoliberin #status predicted <GLN>
F;3-37/Product: progonadoliberin #status predicted <GLN>
F;3-37/Product: prolactin release-inhibiting factor #status predicted <PIF
F;34/Modified site: pyrrolidone carboxyl end (Gln) (in mature form) #status predicted site: pyrrolidone carboxyl end (Gln) (amide in mature form from
                                                                                                                                                                                             C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone;
F;1/Modified site: pyrrolidone carboxylic ac
F;10/Modified site: amidated carboxyl end (6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                gonadoliberin I - American alligator
N;Alternate names: gonadotropin-releasing hormone I
C;Species: Alligator mississippiensis (American alligator)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Mar-1997
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                                                               Query Match
Best Local Similarity
The B; Conserv
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A;Title: Primary structure of two forms of gonadotropin-releasing A;Reference number: A60066; MUID:91352338
                                                                                                                                                                                                                                                                                        A; Molecule type: protein A; Residues: 1-10 <LOV>
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A; Status: preliminary
A; Molecule type: mRNA
A; Residues: 1-92 <MAI>
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9; Conserv
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A; Molecule type: DNA
A; Residues: 1-92 <DU2>
A; Cross-references: EMB
C; Genetics:
A; Introns: 47/3; 79/3
C; Superfamily: gonadoli
                                                                                                                                                            C;Generics.
A;Gene: vpx
C;Superfamily: AIDS vpu protein
                                                                                                                                                                                                                                                                                                                            N;Alternate names: vpx protein
C;Species: simian immunodeficiency virus, SIV
C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 08-Apr-1994
C;Accession: A30996
                                              В
                                                                         Qγ
                                                                                                                                                                                                                       A; Molecule type: proces
A: Residues: 1-106 <HEN>
                                                                                                                                                                                                                                                                      A; Title: Isolation and characterization of A; Reference number: A30996; MUID:88264422
                                                                                                                                                                                                                                                                                                    R; Henderson, L.E.; Sov
Science 241, 199-201,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: EMBL:U31865; NID:g905398; PIDN:AAC59691.1; PID:g905399 C;Superfamily: gonadoliberin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Residues: 1-98 <WHI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Title: Three gonadotropin-releasing hormone A;Reference number: I50739; MUID:95396797 A;Accession: I50739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;White, S.A.; Kasten, T.L.; Bond, C.T.; Adelman, J.P.; Fernald, Proc. Natl. Acad. Sci. U.S.A. 92, 8363-8367, 1995
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   RESULT
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Species: Haplochromis burtoni; Jate: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000; Accession: I50739
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Best Local :
                                                                                                                       Query Match
Best Local
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                                           88 HGAGGWRPGPPPPP 102
                                                                                                        Local Similarity hes 9; Conser
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les 8; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       32
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C; Superfamily: AIDS vpu protein
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A;Note: the nucleotide sequence was submitted C;Superfamily: AIDS vpu protein
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N;Alternate names: orf-X protein
C;Species: simian immunodeficiency virus SIVagm
C;Date: 31-Mar-1989 #sequence_revision 31-Mar-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Hahn, B.H.; Kong, L.I.; Lee, S.W.; Kumar, Nature 300, 184-186, 1987
A;Title: Relation of HTLV-4 to simian and hua;Reference number: S03065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene X protein - human T-cell lymphotropic virus type 4
C;Species: human T-cell lymphotropic virus type 4, HTLV-4
C;Date: 21-Nov-1993 #sequence_revision 26-May-1995 #text_change 20-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Chakrabarti, L.; Guyader, M.; Alizon, M.; Daniel, Nature 328, 543-547, 1987
A;Title: Sequence of simian immunodeficiency virus A;Reference number: A28887; MUID:87287230
                A; Molecule type: I
A; Residues: 1-112
                                                A; Reference number: A; Accession: D26737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-112 <HAH>
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C; Keywords: AIDS; immunodeficiency
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A; Residues: 1-112 <CHA>
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C; Genetics:
              A; Residues:
                                                                                  submitted to GenBank,
                                                                                                      R; Hirsch,
                                                                                                                    C; Accession:
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Best Local :
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Best Local 9
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9; Conserv
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                                                                  k, June 1987
A26739
                                                                                                                                                                                        immunodeficiency virus SIVagm
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hypothetical protein DKFZp434A1010.1 - human (fragment)
C;Specles: Homo sapiens (man)
C;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 04-Feb-2000
C;Accession: T46289
R;Duesterhoeft, A.; Lauber, J.; Mewes, H.W.; Gassenhuber, J.; Wiemann, S.
submitted to the Protein Sequence Database, January 2000
A;Reference number: Z23035
A;Accession: T46289
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-862 <AAAA>
A;Cross-references: EMBL:AL137579
A;Experimental source: adult testis; clone DKFZp434A1010
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Search completed: March 2, 2001, 10:55:40 Job time: 260 sec
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                                                                                                                                                                                Query Match 49.0%;
Best Local Similarity 80.0%;
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 49.0%;
Best Local Similarity 60.0%;
Matches 9; Conservative
                                                                                                 7 LRPGSSPPPP 16
|||| :||||
458 LRPGGAPPPP 467
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Result
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Maximum Match 100%
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Maximum DB
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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            US-08-188-223-5
US-08-968-466-5
US-08-968-466-7
US-08-968-466-7
US-09-100-414B-82
US-09-100-414B-81
US-08-387-156-4
US-08-387-156-10
US-08-694-865-10
US-08-694-865-10
US-08-694-865-10
US-08-694-865-16
US-08-694-865-16
US-08-694-865-16
US-08-694-865-18
US-08-694-865-18
US-08-694-865-8
US-08-878-748-8
US-09-124-491-8
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6.429 Million cell updates/sec
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US-08-188-223-5
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Sequence 5, Appitch
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                                                                                              FEATURE:
                                                                                                                                                                            HYPOTHETICAL:
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COUNTRY:
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                                                                             NAME/KEY:
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54	Patent No.	5492893-1	G	10	58.3	63	45
1, 4	Sequence	US-08-591-917-1	Н	10	58.3	63	44
22,	Sequence	US-08-453-588-22	ᆫ	10	58.3	63	43
11,	Sequence	US-08-341-219-11	ᆫ	10	58.3	63	42
22,	Sequence	US-08-428-488-22	_	10	58.3	63	41
ū	Sequence	US-08-000-931-5	ᆫ	10	58.3	63	40
1, 2	Sequence	US-08-343-883-1	_	10	58.3	63	39
32,	Sequence	US-07-690-983D-32	_	10	58.3	63	38
Ņ	Sequence	US-07-690-983D-2	₩.	10	58.3	63	37
9, 2	Sequence	US-07-714-540-9	<u> </u>	10	58.3	63	36
12,	Sequence	US-08-455-970A-12	_	936	59.3	64	35
7,	Sequence	US-08-458-814-7	ω	55	59.3	64	34
6, Appli	Sequence	US-08-458-814-6	ω	52	59.3	64	33
26,	Sequence	US-08-521-079-26	ω	16	59.3	64	32
26,	Sequence	US-08-453-588-26	ب	16		64	31
30,	Sequence	US-07-690-983D-30	_	14	60.2	65	30
10, Appl	Sequence	US-08-488-351A-10	N	28	61.1	66	29

ALIGNMENTS

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GENERAL INFORMATION:
APPLICANT: Grimes, Stephen
APPLICANT: Scibienski, Robert
                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-819-8286
TELEPAX: 212-354-8113
INFORMATION FOR SEQ ID NO: 5:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP: 10036-2787

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.

CURRENT APPLICATION DATA:
                                                                                                                                     REATURE:
FEATURE:
NAME/KEY: Region
1..7
                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/188,2
FILING DATE: 27-JAN-1994
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Drivas Esq., Dinitrios T.
                                  LOCATION: 8..17
OTHER INFORMATION:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Dimitrios T. Drivas, Esq
STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                    LENGTH: 17 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 32.
REFERENCE/DOCKET NUMBER:
                                                                                                                          OTHER INFORMATION:
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                                                                        Region
8..17
Modified-site
                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                    : peptide
YES
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                                                     /note=
                                                                                                                            /note=
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FR: 11
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                                                                                                                          "spacer"
                                                     "immunomimic"
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Query Match
Best Local Similarity
Thes 16; Conserve
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OTHER INFORMATION:
US-08-188-223-5
                                                                    ; OTHER INFORMATION: ; OTHER INFORMATION: US-08-968-466-5
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                Query Match
Best Eocal Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ZIP: 10036-2787

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: Drivas Esq., Dimitrios T.
REGISTRATION NUMBER: 32,218
REFERENCE/DOCKET NUMBER: 110286
                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                  TOPOLOGY: li
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Immunogens Against TITLE OF INVENTION: Releasing Hormone
                                                                                                                                                                                                   FEATURE:
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                                                                                                                                                         OTHER INFORMATION:
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                                                                                                                LOCATION:
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1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                            17 amino acids
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8..17
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Scibienski, Robert
 Conservative
                                                                                                                 Modified-site
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                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                   : peptide
YES
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100.0%;
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                100.0%;
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/note= "glycinamide"
                                                                                /label= GlyNH2
/note= "glycinamide"
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Score 102; DB 3; I; Pred. No. 3.1e-08; 0; Mismatches 0;
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Pred. No.
                                                                                                                                                                                                                "spacer"
                                                                                                                                                          "immunomimic"
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ches 0;
                           Length 17;
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 RESULT 4
US-08-968-466-7
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; NAME/KEY: Modified-
; LOCATION: 16
; OTHER INFORMATION:
; OTHER INFORMATION:
US-08-188-223-7
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US-08-188-223-7
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                                                                Matches
                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION: NAME: Drivas Esq., Dimit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Grimes, Stephen APPLICANT: Scibienski, Robert
                                                                                                                                                                                                                               FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: peptide HYPOTHETICAL: YES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/188,223
FILING DATE: 27-JAN-1994
CLASSIFICATION: 424
                                                                                                                                                                                                                                         NAME/KEY: Region LOCATION: 7..16 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Drivas Esq., Dimitrios T. REGISTRATION NUMBER: 32,218
                                                                                                                                                                                                                                                                                                             OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                            NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: Dimitrios T. Drivas, Esq STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                              LOCATION:
1 CPPPP-REHWSYGLRP 15
                                1 CPPPPSSEHWSYGLRP 16
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                                                                Conservative
                                                                                                                                                                                             Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                            linear
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                                                                             76.48;
87.58;
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                                                                                                                                                             /label= GlyNH2
/note= "glycina
                                                                                                                                                                                                                                                                                                             /note= "spacer"
                                                                                                                                                                                                                                             /note=
                                                              Score 82.5; D
Pred. No. 1.4e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1102865-300
                                                                                                                                                                                                                                                "immunomimic"
                                                                                                                                                             "glycinamide"
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                                                                             DB 1;
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                                                                                                                            RESULT 5
US-09-100-414B-82
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                         Sequence 82, Application US/09100414B
Patent No. 6025468
GENERAL INFORMATION:
APPLICANT: Wang, Chang Yi
TITLE OF INVENTION: NOVEL LHRH PEPTIDE
TITLE OF INVENTION: IMMUNOGENS
                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                               Matches
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TELEFAX: 212-354-8113
(INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HYPOTHETICAL: YES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: Drivas Esq., Dimitrios T.
REGISTRATION NUMBER: 32,218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: IMTITLE OF INVENTION: RENUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
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ORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: Region LOCATION: 7..16 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER: 32,218
REFERENCE/DOCKET NUMBER: 1102865-300
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1155 Avenue of the Americas
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                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Grimes, Stephen
Scibienski, Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                       76.4%;
87.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Releasing Hormone
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                                                                                                                                                                                                                                                                                                                                                                            /label= GlyNH2
                                                                                                                                                                                                                                                                                                                                                           /note= "glycinamide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "spacer"
                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
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                                                                                                                                                                                                                                                                         Score 82.5; DB 3; Pred. No. 1.4e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                               "immunomimic"
                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                        Length 16;
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Best Local Similarity
Matches 13; Conserv
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ATTORNEY/AGENT INFORMATION:
NAME: MATIA H. Lin
REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 1151
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
TELEPHONE: 212-751-6849
INFORMATION FOR SEQ ID NO: 82:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No. 6025468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 80,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                           REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC WINDOWS
SOFTWARE: Word 97
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Maria H. Lin
REGISTRATION NUMBER: 29,323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US,
FILING DATE: 20-JUNE-19
                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Wang, Chang Yi
TITLE OF INVENTION: NOVEL LHRH
TITLE OF INVENTION: IMMUNOGENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: li
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                      APPLICATION NUMBER: US/00, FILING DATE: 20-JUNE-1998 CLASSIFICATION: 424
TELEPHONE: 212,751-6849
                                                                                                                                                                                                                                                                          COUNTRY: USA
ZIP: 10154-0054
                                                                                                                                                                                                                                                                                                                          STREET: 345 Par
CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC OPERATING SYSTEM:
SOFTWARE: WORD 97
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CITY: New York
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GY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-JUNE-1998
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81.2%;
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                                                             1151-4157
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Pred. No. 4.8e-05;
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                                                                    RESULT
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                         Sequence 4, Application US/08387156 Patent No. 5723129
                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No.
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Best Local :
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              GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                   TELEFAX: 212-751-6849
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC Windows
                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/0
FILING DATE: 20-JUNE-199
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Maria H. Lin
                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 111
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Wang, Chang Yi
TITLE OF INVENTION: NOVEL LHRH PEPTIDE
TITLE OF INVENTION: IMMUNOGENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: li
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                                                                                                                                                                                                                                              MOLECULE TYPE: peptide
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 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                          CITY: New York
STATE: NY
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20 PPXPXPEHWSYGLRPG 35
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE:
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                                                                                                                                                                                                                                                                                      ENGTH:
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345 Park Avenue
                                                                                                                                                                                                                                                                                                                                212-751-6849
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 POTTER, ANDREW A.
                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                              linear
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81.2%;
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81.2%;
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Pred. No. 4.9e-05;
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Pred. No. 4
                                                                                                                                                                 Mismatches
                                                                                                                                                                             DB 3;
4.9e-05;
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                                                                                                                                                                Indels
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                                                               COMPUTER READABLE FORM:
CURRENT APPLICATION DATA:
                                                                                                       STREET: 201
CTTY: PALO ALTO
        COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin pal-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE:
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                                                                                            COUNTRY:
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                                                                               94301
                                                                                             USA
            PatentIn Release #1.0, Version #1.30
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; MOLECULE TYPE: protein US-08-387-156-4
                                                                                                                                                            Sequence 4, Application US/08694865 Patent No. 5837268
                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                  GENERAL INFORMATION:
APPLICANT: POTTER, ANDREW
APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/779,171
APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
ATTORNEY/ACENT INFORMATION:
ANAME: ECRETAGE PRESERT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (415) 327-32 INFORMATION FOR SEQ ID NO:
                NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 49 amino acids
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APPLICANT: HUGHES, HUW P.A.
TITLE OF INVENTION: GNRH-LE
                                                                               TITLE OF INVENTION: GNRH-LEUKOTOXIN CHIMERAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION: TELEPHONE: (415) 617-8999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                    22 PGGSSQHWSYGLRPG 36
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: 10-FEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 635 BRYANT STREET CITY: PALO ALTO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                       3 PPPSSEHWSYGLRPG 17
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285 HAMILTON AVENUE, SUITE 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            UNITED STATES OF AMERICA
                                                                                                                                                                                                                                                                                                                                                               Conservative
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SYSTEM: PC-DOS/MS-DOS
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327-3231
                                                                                                                       ANDREW A.
                                                                                                                                                                                                                                                                                                                                                                                65.7%;
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                                                                                                                                                                                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (415)327-3400
TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                TELEFAX: (415) 327-32
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
                                                                      NAME: ROBINS, ROBERTA L.
REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 900
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                    APPLICATION NUMBER: US 07/960,932 FILING DATE: 14-OCT-1992 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 900
TELECOMMUNICATION INFORMATION:
SEQUENCE CHARACTERISTICS:
LENGTH: 49 amino acids
                                                                                                                                      APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                    CLASSIFICATION: 536
PRIOR APPLICATION UMBER: US 08/387,156
FILING DATE: 10-FEB-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
FILING DATE: 09-AUG
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: GORH-LE
                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/01 FILING DATE: 19'JUN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity 80.
                                                            TELEPHONE:
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UNITED STATES OF AMERICA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        49 amino acids
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                                               (415)
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                                                                                                                                                                                                                                                                                                                                                PatentIn Release #1.0, Version #1.25
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                                                                (415) 617-8999
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US-09-124-491-4
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Best Local Similarity
"`^*^hes 12; Conserv?
                                                      Query Match
Best Local Similarity
Matches 12; Conserv
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                                                                                                                                                                                                                 TELEFAX: (415)327-323
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                              REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
                                                                                                                                                                                                                                                                                                                                               FILING DATE: 10-FEB-1995

PAPPLICATION NUMBER: US 07/960,932

FILING DATE: 14-OCT-1992

PRIOR APPLICATION NUMBER: US 07/779,171

APPLICATION NUMBER: US 07/779,171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Relicurent APPLICATION DATA:
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ADDRESSEE: REED & ROBINS LLP
STREET: 285 HAMILTON AVENUE, SUITE 200
                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: 1
FILING DATE: 09-AUG-APPLICATION NUMBER: 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: POTTER, ANDREW APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
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CITY: PALO ALTO
                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                         TYPE: amino acid
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22 PGGSSQHWSYGLRPG
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                                                                                                                                                                                     LENGTH:
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                           3 PPPSSEHWSYGLRPG 17
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                                                        Conservative
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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80.0%;
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80.0%;
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                                                                    Score 71; DB 3;
Pred. No. 0.0016;
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Pred. No. 0.
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Query Match
Best Local Similarity
"hes 12; Conservations
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                                                                                                                                                           Sequence 10, Application US/08694865 Patent No. 5837268
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GENERAL INFORMATION:
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                                                                                                                                         GENERAL INFORMATION:
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NFORMATION FOR SEQ ID NO:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                 APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GRH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 544 amino acid
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CURRENT APPLICATION DATA:
                                               CORRESPONDENCE ADDRESS
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ADDRESSEE: REED & ROBINS
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                                                                                                                                                                                                                                                                    515 PGGSSQHWSYGLRPG 529
              ADDRESSEE: 'STREET: 28
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PALO ALTO
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amino acid
GY: linear
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              E: REED & ROBINS LLP
285 HAMILTON AVENUE, SUITE 200
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HUGHES, HUW P.A.
TVENTION: GORH-LEUKOTOXIN CHIMERAS
                                                                                                                                                                                                                                                                                                                                      Conservative
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Pred. No. 0.02;
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US-08-878-748-10
; Sequence 10, Applia
; Patent No. 5969126
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Best Local Similarity
Matches 12; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
                                                                    PRIOR APPLICATION NUMBER: US 08/387,156
FILING DATE: 10-FEB-1995
APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
                                                                                                                                                                                  SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/878,748
FILING DATE: 19-JUN-1997
CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 544 amino acid
TYPE: amino acid
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
ATTORNEY_AGENT INFORMATION:
NAME: ROBINS, ROBERTA L.
                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS
STREET: 635 BRYANT STREET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 9001-0016.22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION:
NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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STATE: CALIFORNIA
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                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: Floppy disk
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(415)327-3231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REDMOND, MARK J. HUGHES, HUW P.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                          UNITED STATES OF AMERICA
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09-AUG-1996
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80.0%;
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Pred. No. 0.02;
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REGISTRATION NUMBER:

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;; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-878-748-10
; LENGTH: 544 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-124-491-10
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US-09-124-491-10
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Best Local Similarity 80.0%;
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 10, Application US/09124491 Patent No. 6022960
                                                                                                                                                                   APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 9001-0016.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/694,865
FILING DATE: 09-AUG-1996
APPLICATION NUMBER: US 08/387,156
FILING DATE: 10-FEB-1995
PRIOR APPLICATION NUMBER: US 07/960,932
APPLICATION NUMBER: US 07/960,932
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/779,171
APPLICATION NUMBER: US 07/779,171
                                                              TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 544 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (415) 327-3231 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 544 amino acids
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GRRH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3 PPPSSEHWSYGLRPG 17
| ||:||||||||
515 PGGSSQHWSYGLRPG 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 285 HAMI
CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/09/124,491
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
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285 HAMILTON AVENUE, SUITE 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10:
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Pred. No. 0.02;
1; Mismatches
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Query Match 65.7%; Score 71; DB 3; Length 544;

Best Local Similarity 80.0%; Pred. No. 0.02;

Matches 12; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 3 PPPSSEHWSYGLRPG 17

Db 515 PGGSSQHWSYGLRPG 529
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0;

Search completed: March Job time: 601 sec

2

2001, 10:54:36

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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
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OM protein - protein search, using sw model Run on: March 2, 2001, 11:00:45; Search time 97.13 Seconds (without alignments) 20.514 Million cell updates/sec

Title: Perfect score: Scoring table: Sequence: 108 1 CPPPPSSEHWSYGLRPG 17 US-09-306-689-3

BLOSUM62 Gapop 10.0 , Gapext 0.5

Searched: 374700 seqs, 117207915 residues

Total number of hits satisfying chosen parameters:

374700

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database : SPTREMBL_15:*

1: sp_archea:*
2: sp_bacteria
3: sp_fugd:*
4: sp_human:
5: sp_human:
6: sp_manma
7: sp_mhc:
8: sp_org
9: sp_ph
10: sp_f
11: sp
12: sf
13: s sp_mammal:*
sp_mhc:*
sp_organelle:*
sp_phage:* sp_plant:*
sp_rodent:*
sp_virus:*
sp_vertebrate:*
sp_unclassified:* sp_archea:*
sp_bacteria:*
sp_fungi:* sp_human:* sp_invertebrate:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

19	18	17	16	15	14	13	12	11	10	9	8	7	6	G	4	ω	2	1	Result No.
51	51	51	51	51	51	51	51	51	51	52	52	52	52	54	54	54	54	60	Score
47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	48.1	48.1	48.1	48.1	50.0	50.0	50.0	50.0	55.6	Query Match Length
327	107	90	88	82	82	82	82	33	33	2357	148	110	90	114	99	95	87	91	Length
4	σ	13	13	13	13	13	13	13	13	G	4		13	σ	L U	13	13	13	₽B
Q9UHN2	Q9TSI3	Q9IA09	Q9PSY9	Q918P9	091800	Q9W7G1	Q92094	Q9PT34	Q9W7G0	Q9U1M8	Q9NZ81	097686	Q9IAU2	097655	Q9IA10	073812	Q9YI26	Q9PRH0	ID
Q9uhn2 homo sapien	Q9tsi3 macaca mula	Q9ia09 dicentrarch	Q9psy9 sparus aura	Q9i8p9 oncorhynchu	Q9i8q0 oncorhynchu	Q9w7gl oncorhynchu	Q92094 oncorhynchu	Q9pt34 oncorhynchu	Q9w7g0 oncorhynchu	Q9ulm8 dictyosteli	Q9nz81 homo sapien	097686 suncus muri	Q9iau2 rana dybows	097655 macaca mula	Q91a10 dicentrarch	073812 morone saxa	Q9yi26 sparus aura	Q9prhO anguilla ja	Description

Query Match
Best Local Similarity 90.0
Matches 9; Conservative

55.6%;

Score 60; DB 13; Length 91; Pred. No. 0.11; 1; Mismatches 0; Indels

0; Gaps

44	43	42	41	40	39	38	37	36	35	34	<u>3</u> 3	32	31	30	29	28	27	26	25	24	23	22	21	20
4 6 6	46	46.5	47	47	47	47	47	47	47	47	47.5	47.5	48	49	49	49.5	49.5	49.5	50	50	50	50	50.5	51
42.6 42.6	42.6	43.1	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	44.0	44.0	44.4	45.4	45.4	45.8	45.8	45.8	46.3	46.3	46.3	46.3	46.8	47.2
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Q9xin6 ārabidopsis Q9sd40 arabidopsis				075802 homo sapien	Q9typ2 caenorhabdi	O81467 arabidopsis	Q09084 lycopersico	O69910 streptomyce	O86520 streptomyce	Q01948 lycopersico	Q9p206 homo sapien	015844 leishmania		_	097214 leishmania	_			Q18662 caenorhabdi	Q9w3v7 drosophila	Q9pt25 oncorhynchu	042471 carassius a	Q9wbt6 gb virus c	Q9ubv7 homo sapien

ALIGNMENTS

EQUIDANT STATE OF THE STATE OF	SOFT	DR DR	RP RA RT	RP RA RT	30000g	2228	Q9PRHO
RY; PRT; 91 1. 13, Created) 1. 13, Last sequence 1. 14, Last annotate R. Panese eel). hordata; Craniata; erygii; Teleostei; erygii; Teleostei erygii; Teleostei alda K.; hada	Signal. SIGNAL CHAIN CHAIN SEQUENCE	normone (p peripheral Zool Sci EMBL; AB02 EMBL; AB02 INTERPRO; PFAM; PF00 PROSITE; P	[2] SEQUENCE F Okubo K., "A splicin		PREPRO-MGN Anguilla j Eukaryota; Actinopter Anguillida NCBI_TaxID	Q9PRH0; 01-MAY-200 01-MAY-200 01-JUN-200	OPRHO
RY; PRT; 91 1. 13, Created) 1. 13, Last sequence 1. 14, Last annotate R. Aida K.; erygii; Teleostei; erygii; Teleostei; erygii; Teleostei Aida K.;	. 1 23 33 91 AA;	repro-mGr 16:645-6 16:645-6 698; BAZ 6991; BAZ 1PR002012 446; GRRF	ROM N.A. Suetake H g variant	ROM N.A. IN; Suetake F Suetake F n of two arious ti 16:471-4	RH PRECUI aponica (Metazoa; ygii; Nec e; Anguil =7937;		PRELIM
Created) Last sequence update) Last sequence update) Last annotation update) eel). ? Craniata; Vertebrata; Euteleostomi; ? Teleostei; Anguilliformes; Anguilloidei; ppin-releasing hormone (GnRH) precursor the Japanese eel and evolution of GnRH.", prepro-mammalian gonadotropin-releasing is present in the brain and various apanese eel."; POTENTIAL. GNRH ASSOCIATED PEPTIDE. BA15C9DC08434A7B CRC64;		of the Ji 551(1999) 551(399) 551(399) 562608.1; 683597.1; 683597.1; 683597.1;	., Aida for the	Aida gonadotro	SOR. Japanese Chordat ppterygii		NARY;
91 AA. 91 AA. uence update) otation update) tta; Vertebrata; Euteleostomi; ei; Anguilliformes; Anguilloidei, ei; Anguilliformes; Anguilloidei, ei; Anguilliformes of GnRH, precursor nese eel and evolution of GnRH.", nese eel and evolution of GnRH.", scociament in the brain and various el."; scociament peptide. scociament peptide.	POTENTI MGNRH. GNRH ASS BA15C9DO	is prese	K.; prepro-ma	K.; opin-rele the Japa	eel). a; Crania ; Teleost	Created) Last seq Last ann	PRT;
update) update) update; ebrata; Euteleostomi; illiformes; Anguilloidei, illiformes; Anguilloidei, illiformes of GnRH, precursor and evolution of GnRH.", and evolution of GnRH.", b crossing and various generates of the control of GnRH.", B crossing the brain and various generates of the control of GnRH.", B crossing the crossing the brain and various	AL. SOCIATED		ammalian	asing ho		uence up otation	
Euteleostomi; es; Anguilloidei nRH) precursor lution of GnRH.",	PEPTIDE		gonadot	ormone (G	ebrata; nilliform	odate) update)	
ttomi; illoidei; illoidei; cursor f GnRH.",	•		ropin-re	nRH) pre lution o	Euteleos es; Angu		
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RESULT
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Best Local S
Matches 8
'INTERPRO; IPRO02012; -. PFAM; PF00446; GnRH; 1. PROSTE; PS00473; GNRH;
                                                                       Chow M.M., Kight K.E., Gothilf Y., Alok D., Zohar Y.;
Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: STIMULATES THE SECRETION OF BOTH LUTEINIZING
FOLLICLE-STIMULATING HORMONES.
-!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
-!- FUNCTION: AF056314; AAD03817.1; -.
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073812;
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NON_TER
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Q9YI26;
                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleo Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neotel Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; F
                                                                                                                                                                                                                                                                                                                                                                                                                                    01-AUG-1998 (TYEMBLIEL 07, Created)
01-AUG-1998 (TYEMBLIEL 07, Last sequence update)
01-CT-2000 (TYEMBLIEL 15, Last annotation update)
GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nabissi M.;
Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sparus aurata (Gilthead sea bream).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eukaryota; Metazoa; Chordata; Craniata; Euteleostei; Actinopterygii; Teleostei; Euteleostei; Acanthomorpha; Acanthopterygii; Percomorpha; Percifor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ol-MAY-1999 (TIEMBLrel. 10, Created)
Ol-MAY-1999 (TIEMBLrel. 10, Last sequence update)
Ol-MAY-2000 (TIEMBLrel. 13, Last annotation update)
GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LULIBERIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE-OVARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sparidae; Sparus.
NCBI_TaxID=8175;
                                                                                                                                                                                                                                                                                    NCBI_TaxID=34816;
                                                                                                                                                                                                                                                                                                                                                                                                                  Morone saxatilis (Striped bass).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
8; Conserv
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                                                                                                                                                                                                                                                                                                              Morone.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9871 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     THE SECRETION HORMONES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              THE SECRETION OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 54; DB
Pred. No. 0.75
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0D2463533D96782A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percomorpha; Perciformes; Percoidei;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          87
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 75;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GONADOTROPINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BOTH LUTEINIZING
                                                                                                                                                                                                                                                                                                                                                                                                                                          (GNRH) (LULIBERIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 87;
                                                                                                                                                                                                                                                                                                                                                                                        Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Neoteleostei;
                                                                                                                                                                                                                                                                                                                                      Percoidei;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AND
                                                                                                                                                        AND
                                                                                                                                                                                                                                                                                                                                                                eostei
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RESULT
097655
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Q9IA10
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Best Local
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Best Local
                                                                                                                                                                                                                                                Matches
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                                                                                                                                       097655;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hormone;
SEQUENCE
                 Cercopithecinae;
NCBI_TaxID=9544;
                                       Macaca mulatta (Rhesus macaque)
Eukaryota; Metazoa; Chordata; Cr
Mammalia; Eutheria; Primates; Ca
                                                                                            GONADOLIBERIN
                                                                                                                  01-MAY-1999
01-MAY-1999
                                                                                                                                                                                                                                                                                                  Submitted (JAN-2000) to the I
EMBL; AF224279; AAF62898.1;
SEQUENCE 99 AA; 10758 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei; Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoide Moronidae; Dicentrarchus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-OCT-2000
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-2000
                                                                        GNRH2
                                                                                   PRECURSOR
                                                                                                         01-OCT-2000
                                                                                                                                                                                                                                                                                                                                   Zmora N., Zohar Y., Elizur I
"3 GnRH form in the seabass
                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                        Submitted
                                                                                                                                                                                                                                                                                                                                                                                               Zohar Y., Elizur A., Munoz-Cueto J.A., Kah O.;
"Differential expression of three different prepro-GnRH
(Gonadotrophin-releasing hormone) messengers in the bra-
                                                                                                                                                                                                                                                                                                                                                                                                                                            Gonzalez-Martinez
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dicentrarchus labrax (European sea bass)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GONADOTROPIN RELEASING HORMONE SEABREAM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9IA10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9IA10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRODOM; PD005581; -; 1.
                                                                                                                                                                                                                                                                                                                                                         TISSUE=BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=13489;
                                                                                                                                                                                                        27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23 QHWSYGLSPG
                                                                                                                                                                                                                            8 EHWSYGLRPG
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                                                                                                                                                                                                        QHWSYGLSPG
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                                                                                                                                                                                                                                               Similarity
8; Conserv
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8; Conser
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                                                                                                                                                                                                                                                                                                                                                                                       (JAN-2000) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95 AA;
                                                                                           (TTEMBLrel. 10, Created)
(TTEMBLrel. 10, Last sequence update)
(TTEMBLrel. 15, Last annotation update)
(IN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LULIBERIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TrEMBLrel. 15, (TrEMBLrel. 15, (TrEMBLrel. 15,
                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                   N.A.
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                               Macaca
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                                                                                                                                                                                                                                                                                                                                             Elizur A.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
Last annotation update)
ONE SEABREAM ISOFORM.
                                                                                                                                                                                                                                                ۲,
                                                                                                                                                                                                                                                                                                                         EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                    Dicentrarchus labrax.";
                                                                                                                                                                                                                                                                                                                                                                                        EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 54; DB
Pred. No. 0.81
1; Mismatches
                                                                                                                                                                                                                                                Score 54; DB
Pred. No. 0.85
1; Mismatches
                                         Craniata; Vertebrata; Catarrhini; Cercopithe
                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                  EC8AEEC93CC02904 CRC64;
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1.85;
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0.81;
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                                         Cercopithecidae;
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                                                    Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                             brain
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SEQUENCE FROM N.A

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RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A White R.B., Urbanski H.F., Fernald R.D.;

"A second gene for gonadotropin-releasing hormone is expressed
T rhesus macaque (Abstract #532.18).";

L Abstr. - Soc. Neurosci. 24:1609-1609(1998).

C -!- FUNCTION: STIMULATES THE SECRETION OF BOTH LUTEINIZING AND
C -!- FUNCTION: STIMULATING HORMONES.

C -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.

R EMBL; AF097356; AAD09106.1; -.

R EMBL; AF097356; GARH; 1.

RPROSITE; PS00473; GNRH; 1.

RPROSITE; PS00473; GNRH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9IAU2;
Q9IAU2;
01-OCT-2000
01-OCT-2000
01-OCT-2000
                                                                                                                                                O97686 PRELIMINARY; PRT; 110 AA.
O97686;
01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AFI
SEQUENCE
                                                             Suncus murinus (House shrew).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Insectivora; Soricidae; Suncus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Molecular
of a Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=BRAIN;
YOO M.S., Kan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata
Amphibia; Batrachia; Anura;
NCBI_TaxID-71582;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rana dybowskii (Frog).
Rana dybowskii (Frog).
Nochatrachii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
01-OCT-2000 (TREMBLREL. 15, Last annotation update)
01-OCT-2000 (TREMBLREL 15, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hormone; Amidation. SEQUENCE 114 AA;
                                                                                                                                       GNRH2.
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SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                       8 EHWSYGLRPG
:|||||| ||
5 QHWSYGLWPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PGPSEAQHWSHGWY PG
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B.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity 80.88; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             114 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   H.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 52; DB Pred. No. 1.5; 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a; Craniata; Vertebrata; Euteleostomi;
Neobatrachia; Ranoidea; Ranidae; Rana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 54; DB
Pred. No. 0.97
3; Mismatches
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0.97;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
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                                                                                       Euteleostomi;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brain.";
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Q9NZ81
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Best Local S
Matches 8
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Best Local S
Matches 8
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NCBL_10ALL
[1]
SEQUENCE OF 254-349 FROM N.A.
SEQUENCE OF 254-349 FROM N.A.
MEDLINE=95023928; PubMed=7937787;
MEDLINE=95023928 A., Loomis W.F.;
""'+"'9 M.A., Kuspa A., Loomis W.F.;
""'cain genes by physical mapping
                                                                                                                                                                                                                                                                                                                                            TISSUE-BONE MARROW;
Zhao M., Gu J., Li N., Peng Y., Han Z., Chen Z
Zhao M., Gu J., Li N., Peng Y., Han Z., Chen Z
"A novel gene expressed in human bone marrow."
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ
EMBL; AF217517; AAF67628.1; -
SEQUENCE 148 AA; 15385 MW; 56BFEE6A15935A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hormone;
SEQUENCE
                                                                          Dictyostelium discoideum (Slime mold). Eukaryota; Dictyosteliida; Dictyostelium NCBI_TaxID=44689;
                                                                                                                       01-MAY-2000 (TrEMBLrel. 1
01-MAY-2000 (TrEMBLrel. 1
01-OCT-2000 (TrEMBLrel. 1
CLASS VII UNCONVENTIONAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       White R.B., Kasten T.L., White S.A., Rissman E.F., Ferna "GnRH-II CDNA expression in the musk shrew."; Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases.-!- FUNCTION: STIMULATES THE SECRETION OF BOTH LUTEINIZITY FOLLICLE-STIMULATING HORMONES.
                                                                                                              MYOI
                                                                                                                                                                      Q9U1M8;
                                                                                                                                                                                  Q9U1M8
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-2000 (TrembLrel. 15, 01-OCT-2000 (TrembLrel. 15, 01-OCT-2000 (TrembLrel. 15, UNCHARACTERIZED BONE MARROW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9NZ81
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White R.B., Kasten
                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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50.0%;
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13, Last
15, Last
15 MYOSIN.
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Last sequence uportion that annotation to PROTEIN BM041.
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                                                                                                                                                         Created)
                                                                                                                                                                                                                                                                                                Score 52;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Craniata; Vertebrata;
Catarrhini; Hominidae,
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                                                                                                                                                                                                                                                                                                                                               56BFEE6A15935A2E CRC64;
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annotation
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                    Dictyostelium.";
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PFAM; PF00612; myosin_head; 1.

PFAM; PF00612; T0; 1.

PFAM; PF00784; MyYH4; 2.

PFANTS; PR00193; MYOSINHEAVY.

PRINTS; PR00193; MYOSINHEAVY.

PROSITE; PS50002; SH3; 1.

PROSITE; PS50007; BAND 41_3; 2.

SEQUENCE 2357 AA; 268281 MW;
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                                     -i- FUNCTION: STIMULATES THE FOLLICLE-STIMULATING HORW-i- FUNCTION: STIMULATES THE FUNCTION: AF110993; AAD43463.1;
                                                                                                                       SEQUENCE FROM N.A.
Von Schalburg K.R., S
Submitted (DEC-1998)
                                                                                                                                                                                                       SEQUENCE FROM N.A.

MEDLINB=99312119; PubMed=10385393;

Won Schalburg K.R., Sherwood N.M.;

Von Schalburg k.R., Sherwood N.M.;

"Regulation and expression of gonadotropin-releasing differs in brain and gonads in rainbow trout.";

Endocrinology 140:3012-3024(1999).
                                                                                                                                                                                                                                                                                                                                                          Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri) Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; E Actinopterygii; Meopterygii; Teleostei; Euteleostei; Protacanthopterygii; Salmoniformes; Salmonidae; Oncor NCBI_TaxID-8022;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-NOV-1999 (TrEMBLrel. 13, Last annotation update)
01-NAY-2000 (TrEMBLrel. 13, Last annotation update)
GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9W7G0
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INTERPRO;
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SEQUENCE FROM N.A.
Loomis
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ol. 9:1297-1303(1999)
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                                                                                                                                           Sherwood N.M.;
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                                                         01-NOV-1996 (TremBLrel. 01, Created)
01-NOV-1996 (TremBLrel. 01, Last sequence update)
01-OCT-2000 (TremBLrel. 15, Last annotation update)
GONADDLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LULIBERIN)
                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. Sherwood von Schalburg K.R., Sherwood Submitted (DEC-1998) to the EMBL; AFII0533; AAD43461.1; INTERPRO; IPRO02012; -.
      Oncorhynchus nerka (Sockeye salmon).
Eukaryota; Metazoa; Chordata; Craniata;
Actinopterygii; Neopterygii; Teleostei;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Oncorhynchus mykiss (Rainbow trout) (Salmo gairdner: Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Protacanthopterygii; Salmoniformes; Salmonidae; Onco
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01-MAY-2000 (TrEMBLrel. 13, Last sequence up
01-JUN-2000 (TrEMBLrel. 14, Last annotation
GONADOTROPIN-RELEASING HORMONE (FRAGMENT).
                                       PREPRO-GNRH-I.
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differs in brain and gonads in ra
Endocrinology 140:3012-3024(1999)
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PS00473; GNRH; 1.
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                                                                                                                                                                                                                                                                33 AA;
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., Sherwood N.M.;
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                                                                                                                                                                                                                                                                3741 MW;
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Pred.
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Pred. No. 0.
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n_rainbow trout.";
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Von Schalburg K.R., Sherwood
Submitted (DEC-1998) to the E
-i- FUNCTION: STIMULATES THE
FOLLICLE-STIMULATING HORW
-i- FUNCTION: STIMULATES THE
EMBL; AF110992; AAD43462.1;
INTERPRO; IPR002012;
INTERPRO; IPR002017;
INTERPRO; IPR002017;
                                                                                                                                                                   SEQUENCE FROM N.A.

MEDLINE-99312119; PubMed-10385393;

Won Schalburg K.R., Sherwood N.M.;

"Regulation and expression of gonadotropin-releasing differs in brain and gonads in rainbow trout.";

Endocrinology 140:3012-3024(1999).
                                                                                                                                                                                                                                                                                                                                                                                  Q9W7G1;
Q9W7G1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Signal;
SIGNAL
                      PROSITE; PROSITE;
                                                                                                                                                                                                                                                                      Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri). 
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Ractinopterygii; Meopterygii; Teleostei; Euteleostei; Protacanthopterygii; Salmoniformes; Salmonidae; Oncorh
                                                                                                                                                                                                                                                                                                                                01-NOV-1999 (TIEMBLIE1. 12, Created)
01-NOV-1999 (TIEMBLIE1. 12, Last sequence update)
01-NAY-2000 (TIEMBLIE1. 13, Last annotation update)
GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Urano A., Aida K.;
"Two differing precursor genes for the releasing hormone exist in salmonids.";
J. Mol. Endocrinol. 15:1-9(1995).
                                                                                                                                                                                                                                                                                                                         GNRH1.
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PROSITE; PS00473; GNRH; 1.
PRODOM; PD006549; -; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=96020547; PubMed=8546809;
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3 SQHWSYGWLPG
                                               PF00446;
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IKKO; TISSUE-BRAIN;
                     PS00256; AKH; UNKNOWN_1.
PS00473; GNRH; 1.
            Amidation.
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                                                                                                              Sherwood N.M.;
) to the EMBL/GenBank/DDBJ databases.
LATES THE SECRETION OF BOTH LUTEINIZING
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CRC64;
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PRO-SGNRH-I.
                                                                                                                                    Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri) Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; El Actinopterygii; Neopterygii; Teleostei; Euteleostei; Protacanthopterygii; Salmoniformes; Salmonidae; Oncorh NCBI_TaxID-8022;
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Eukaryota; Metazoa; Chordata; Craniata;
Actinopterygii; Neopterygii; Teleostei;
Protacanthopterygii; Salmoniformes; Salm
OCBI_TaxID=8022;
                                                              "Oncorhynchus mykiss sGnRH-II
submitted (FEB-2000) to the EN
EMBL; AF232213; AAAF91281.1; -
SEQUENCE 82 AA; 9203 MW; E
                                                                                                                                                                                                                                                                                                                                                             "Oncorhynchus mykiss SGnRH-I CDNA from brain.";
Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AF23221; AAF91280.1; -
SEQUENCE 82 AA; 9198 MW; 7595A0B896556A69 CRC64;
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                                                                                                   TISSUE=BRAIN;
Ferriere F., Bailhache T.,
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Ferriere F., Bailhache T.,
                                                                                                                      SEQUENCE FROM N.A.
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                   Similarity 72.
8; Conservative
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Search completed: March 2, 2001, 11:00:47
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This SWI *Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.; *Isolation of the gene and hypothalamic cDNA for the common of gonadotropin-releasing hormone and prolactin release-inhifactor in human and rat. ; *Proc. Natl. Acad. Sci. U.S.A. 83:179-183(1986). "The complete nucleotide sequence of hormone gene."; Nucleic Acids Res. 17:6403-6403(1989) SEQUENCE FROM N.A. MEDLINE-8936682; PubMed-2671939; Hayflick J.S., Adelman J.P., Seeb POIL PRIMARY STANDARY; 92 AA. POIL 48; 21-JUL-1986 (Rel. 01, Created) 01-APR-1988 (Rel. 07, Last sequence update) 30-AAY-2000 (Rel. 39, Last annotation update) PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I) (LUTELNIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING (LUTELNIZING HORMONE RELEASING HORMONE I) biosynthesized in the human placenta.": Biochem. Biophys. Res. Commun. 109:1061-1071(1982). Biochem. Biophys. Res. Commun. 09:1061-1071(1982). -1- FUNCTION: STRULATES THE SECRETION OF GONADOTR THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE. Seeburg P.H., Adelman J.P. "Characterization of cDNA releasing hormone."; SEQUENCE FROM N.A. MEDLINE=86094338; PubMed=2867548; Homo sapiens (Human) Eukaryota; Metazoa; (Tan L., Rousseau P. MEDLINE=83126573; SEQUENCE OF 24-33. Nature 311:666-668(1984). releasing MEDLINE=85012739; PubMed=6090951; SEQUENCE FROM N.A. Mammalia; GNRH1 OR GNRH OR LHRH. HORMONE I) (GNRH I) (LULIBERIN I) (GONADORELIN); GNRH-ASSOCIATED PEPTIDE I]. "The chemical identity of the immunoreactive LHRH-like s SWISS-PROT entry is copyright. It is produced through a ween the Swiss Institute of Bioinformatics and the EMBL European Bioinformatics Institute. There are no restrict by non-profit institutions as long as its content is PHARMACEUTICAL: AVAILABLE UNDER LUTREPULSE OR LUTRELEF (FERRING SIMILARITY: BELONGS TO THE GNRH FAMILY. HORMONES. Eutheria; PubMed=6760865; 17:6403-6403(1989). Chordata; Primates; for precursor Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo. THE NAMES FACTREL (AYERST LABS), PHARMACEUTICALS) AND RELISORM P.H.; the h of human luteinizing hormone human gonadotropin-releasing GONADOTROPINS; IT ST FOLLICLE-STIMULATING release-inhibiting the EMBL out peptide STIMULATES precursor 601 laboration station statio

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PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
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                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                      Neuroendocrinology 60:346-359(1994).
-!- FUNCTION: STIMULATES THE SECRETION
THE SECRETION OF BOTH LUTEINIZING P
                                                                                                                                                   MEDLINE=95124501; PubMed=7545971; Ma Y.J., Costa M.E., Ojeda S.R.; "Developmental expression of the factor alpha and its receptor in
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30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
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-i- FUNCTION: STIMULATES THE SECRETION OF GONADOTITIES SECRETION OF BOTH LUTEINIZING AND FOLLICLE
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AMIDATION (G-16 PROVIDE AMIDE GROUP)
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P49921;
                                                                                                                                                                              MEDLINE=72117544; PubMed=4946275;
Baba Y., Arimura A., Schally A.V.;
Bothem. Biophys. Res. Commun. 45:483-487(1971).
-:- FUNCTION: STIMULATES THE SECRETION OF GONADOTHE SECRETION OF BOTH LUTEINIZING AND FOLLICITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GUNADOTROPIN RELEASING 
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the European Bioinformatics Institute. The by non-profit institutions as long modified and this statement is not removed entities requires a license agreement (See
                                                                                                                                                                                                                                                                                                                                                              "Synthesis of the phase method.";
                                                                                                                                                                                                                                                                                                                                                                                                                      SYNTHESIS OF GONADOLIBERIN. MEDLINE=72065376; PubMed=4942726;
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Weesner G.D., Matter
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MEDLINE=72114303; PubMed=4946067;
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                                                                              SWISS-PROT entry is copyright. It is produced through
sen the Swiss Institute of Bioinformatics and the EN
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Sus.
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Best Local :
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SIGNAL
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GON1_RAT
P07490;
01-APR-1988
01-APR-1988
01-OCT-2000
                                                                                                                                                                                                                                                                                                               "Isolation of gonadotropin-releasing horm factor in human and rat.";
""" Natl Acad. Sci. U.S.A.
                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
MEDLINE=89384661; PubM
Bond C.T., Hayflick J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-APR-1988 (Rel. 07, Created)
01-APR-1988 (Rel. 07, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
01-OCT-2000 (Rel. 40, Last annotation: GONADOLIBERIN I (LHRH I)
PROGONADOLLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GNRH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING F)
 MEDLINE=87149087; PubMed=3547652; Adelman J.P., Bond C.T., Douglass "Two mammalian genes transcribed
                                                                                        Maier C.C., Marchetti B., Leboeuf R.D., Blalock "Thymocytes express a mRNA that is identical to luteinizing hormone-releasing hormone mRNA."; Cell. Mol. Neurobiol. 12:447-454(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus norvegicus (Rat)
Eukaryota; Metazoa; Cho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; L32864; AAA31066.1; PIR; A01411; RHPGG. INTERPRO; IPR002012; -.
                                                                                                                                                                                                             hypothalamic expression.";
Mol. Endocrinol. 3:1257-1262(1989)
                                                                                                                                                                                                                                         Bond C.T., Hayflick J.S., Seebur The rat gonadotropin-releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GNRH1 OR GNRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cleavage on pair of Placenta; Signal.
                                                TISSUE=HEART
                                                                                                                                                   MEDLINE=93105480; PubMed=1468115;
                                                                                                                                                                    rissue=thymus;
                                                                                                                                                                                 SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                               Adelman J.P., Mason A.J., I
"Isolation of the gene and
                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=86094338; PubMed=2867548
                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PFAM; PF00446;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSEHWSYGLRPG
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Bond C.
genes
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                                                                                                                                                                                                                                                       PubMed=2476669;
ck J.S., Seeburg
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Rodentia;
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basic
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   .T., Douglass
transcribed f
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d hypothalamic cDNA for
hormone and prolactin )
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Pred.
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GNRH-ASSOCIATED PEPTIDE
APPEARS TO BE ESSENTIAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vert
Sciurognathi;
                                                                                                                                                                                                                                                                                                                  83:179-183(1986)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                          hormone:
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   from
                 J.,
                                                                                                                                                                                                                                                          P.H.,
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opposite
                 Herbert
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vertebrata;
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Muridae;
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                                                                                                                 J.E.;
hypothalamic
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                                                                                                                                                                                                                                                                                                                                               r the common precursor release-inhibiting
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the
                                                                                                                                                                                                                                                          .P.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Murinae;
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RESULT 6
GON1_XENLA
ID GON1_X
AC P45656
DT 01-NOV
DT 01-NOV
DT 30-MAY
DE GONADO
DE (LH-RH
OS XENOPU
OC Amphib
OC XENOPO
RN [1]
RF TISSUE
RX MEDLIN
RA Hayes
RT "The f
RT "The f
RT mammal
RT GORH-a
RT madocr
CC -i-FU
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Best Local
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EMBL; M12579; AAA41263.1; --
EMBL; M31670; AAA41264.1; --
EMBL; M15527; AAA42141.1; ALT_
EMBL; M15529; AAA42139.1; --
EMBL; M15528; --; NOT_ANNOTATED
                                                                                                                                                                                                     P45656;
01-NOV-1995
01-NOV-1995
30-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                     MOD_RES
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA locus.";
Science 235:1514-1517(1987).
-i- FUNCTION: STIMULATES THE SECRETION OF (
                                             TISSUE-FOREBRAIN;
MEDLINE-94185563; PubMed-8137750;
Hayes W.P., Wray S., Battey J.F.;
"The frog gonadotropin releasing hormone-I (GnRH-I) gene has
mammalian-like expression pattern and conserved domains in
                                                                                                                                                                                       01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Ew the European Bioinformatics Institute. There are no restr
 Endocrinology 134:1835-1844(1994)
                         metamorphosis."
                                  GnRH-associated peptide,
                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                             Eukaryota; Metazoa; Chordata;
Amphibia; Batrachia; Anura; M
                                                                                                                                                                                                                                                      GON1_XENLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS00473; GNRH; Cleavage on pair of basi Placenta; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                  Xenopodinae;
                                                                                                                                                                    Xenopus laevis (African clawed frog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIR; A48410; A48410.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PEPTIDE
                                                                                                                                                                                (LH-RH)
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                                                                                                                                                                                                                                                                                                                                       6 SSEHWSYGLRPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE SPECIFICITY: CENTRAL NERVOUS SYSTEM. SIMILARITY: BELONGS TO THE GNRH FAMILY.
                                                                                                                                                                                                                                                                                                                SSQHWSYGLRPG
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                                                                                                                                                                                                                                                                                                                                                             l Similarity
11; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               an email to license@isb-sib.ch).
                                                                                                                                                                                (LULIBERIN I).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         residues;
                                                                                                                                            a; Craniata; Vertebrata; i
Mesobatrachia; Pipoidea;
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  SECRETION OF
                                     brain
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GONADOLIBERIN I.
PROLACTIN RELEASE-INHIBITING
                                                                                                                                                                                                                                                                                                                                                                                                                                              PYRROLIDONE CARBOXYLIC
                                                                                                                                                                                                                                                      PRT;
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                                     onset
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0.0074
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  GONADOTROPINS
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                                     delayed
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                                                                                                                                                                                          HORMONE I) (GNRH-I)
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                                   until
                                                                                                                                                       Euteleostomi;
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                                                                                                                                           Pipidae;
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RESULT 7
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ID GON1_TUPGB
AC Q95335;
DT 15-DEC-1998
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     use by non-profit institutions as long modified and this statement is not removed entities requires a license agreement (See or send an email to licensedich-oib -
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PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONAD
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                                                                                                                                                                                                   TISSUE=HYPOTHALAMUS;
MEDLINE=97079639; PubMed=8921350;
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the European Bioinformatics Institute
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                                                                                                                                                                                 ernald R.D.;
                                                                                                                                                                                                                                                                                                  (LUTEINIZING HORMONE
                                                                                                                                                                     Characterization of two new preproGnRH
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                                                 ween the Swiss Institute of Bioinf
European Bioinformatics Institute.
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                                                          SWISS-PROT entry is copyright. It is produced through en the Swiss Institute of Bioinformatics and the E
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and this statement
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81
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ES THE SECRETION OF GONADOTROPINS; IT STI
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Pred. No.
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GNRH-ASSOCIATED PEPTIDE I (GAP).
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GONADOLIBERIN I.
GONADOTROPIN-RELEASING
                                                                                                                                                                                                                                                      tree shrew).
Craniata; Vertebrata;
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HORMONE I) (GONADOTROPIN RELEASING
I); GNRH-ASSOCIATED PEPTIDE I].
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84 CRC64;
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                                                                                                                                                                                           MEDITINE-7304314; PubMed-4550508; MEDITINE-7304314; PubMed-4550508; Burgus R., Butcher M., Amoss M., Ling N., Monahan M., Rivier J., Fellows R., Blackwell R., Vale W., Guillemin R.; "Primary structure of the ovine hypothalamic luteinizing hormone-releasing factor (LRF) (LH-hypothalamus-LRF-gas chromatography-mass releasing factor (LRF) (LH-hypothalamus-LRF-gas chromatography-mass
                                                                                                                                                                                                                                                                                                                                                                                                             228588;
15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-DEC-1998 (Rel. 37, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOTROPIN RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I)
           EMBL;
                                                                                                                                                                                                                                                                                        STRAIN=WESTERN RANGE; TISSUE=HYPOTHALAMUS;
Rodriguez R.E., Wise M.E.;
Submitted (OCT-1993) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                      Spectrometry-decapeptide-Edman degradation), ;

Proc. Natl. Acad. Sci. U.S.A. 69:278-282(1972)

-I-FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES

THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebra
Mammalia; Eutheria; Cetartiodactyla; Ruminantia;
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Q28588;
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                                                         modified and this statement is not removed.
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                                                                     European Bioinformatics Institute. The by non-profit institutions as long
                                                                                                                                 SIMILARITY: BELONGS TO THE GNRH FAMILY.
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                                                                                           SWISS-PROT entry is copyright. It is produced through en the Swiss Institute of Bioinformatics and the EN
             U02517; AAA03433.1;
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                                   email to license@isb-sib.ch).
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FOR BIOLOGICAL
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SEQUENCE FROM N.A.

Jansen H.T., Stevens P.J., Zeitler P., Lehman M.N.;

Jansen H.T., Stevens P.J., Zeitler P., Lehman M.N.;

Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.

Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.

THE FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATING

THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                          15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-DEC-1998 (Rel. 37, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
ROGONADOLIBERIN I PRECURSOR (CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING LUTEINIZING HORMONE RELEASING HORMONE I)
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                                                                                                                                                                          the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
  MOD_RES
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Mammalia; Eutheria;
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                                                                                                                              INTERPRO;
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                                                                                                                                       U91938; AAB51302.1;
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9; Conser
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                                                                                                                 IPR002012; -.
0446; GnRH; 1.
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                                                                                                                                                          email to license@isb-sib.ch).
                                                                                             pair
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Rodentia;
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                                                                                            residues; Hormone; Amidation; Hypothalamus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       residues; Hormone;
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Pred.
ACTIVITY (BY
PYRROLIDONE (
                    APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
                                 GNRH-ASSOCIATED SIMILARITY).
                                                  PROGONADOLIBERIN GONADOLIBERIN I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63962A1AE319B8F0 CRC64;
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Sciurognathi;
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0.057;
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 CARBOXYLIC
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15-DEC 1998 (Rel. 37, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-HARTLEY WHITE; TISSUE-HYPOTHALAMUS; MEDLINE-97462693; PubMed-9322920; Jimenez-Linan M., Rubin B.S., King J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Endocrinology 138:4123-4130(1997).
-!- FUNCTION: STIMULATES THE SECRETION
THE SECRETION OF BOTH LUTEINIZING ?
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                                                                                                                                                                                                                                                                   PROSITE;
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                                                                                                                                                                                                                                                                                                                                                                                 the European
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               reveals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Examination of guinea pig luteinizing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mammalia; Eutheria; Rodentia; Hystricognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: BELONGS TO THE GNRH FAMILY
                                                                                                                                                                                                                                                                                                                                                                             SWISS-PROT entry is copyright. It is produced through a collabeen the Swiss Institute of Bioinformatics and the EMBL outst
European Bioinformatics Institute. There are no restrictions
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9; Conserv
                                                                                                                                                                                                                                                                                                                        s requires a license agreement (S an email to license@isb-sib.ch).
   Similarity
9; Conser
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   Score 57; DB
Pred. No. 0.21
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AMIDATION (G
SIMILARITY).
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GNRH-ASSOCIATED PEPTIDE
APPEARS TO BE ESSENTIAL
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                                                                         AMIDATION (G-34 PI
SIMILARITY).
ACF74613F456D663
                                                                                                                     SIMILARITY)
                                                                                                                                   PYRROLIDONE CARBOXYLIC
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                                                                                                                                                                                                                                                    Hormone;
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                                                                                                                                                                                                                                                                                                                                       (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hormone-releasing hormone ence of two transcripts in
         DB 1
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                                                                                                      AMIDE
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                                                                                                                                                                                                                                                                                                                                          J. Biol. Chem.
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GON1_CHICK STANDARD; PRT; 92 AA.

P37042; P20407;
01-FEB-1991 (Rel. 17, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
01-JUN-1994 (Rel. 29, Last annotation update)
90-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I),
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].

Gallus gallus (Chicken).

Gallus gallus (Chicken).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDILIBE-WARDLING MILIAR R.P.;
King J.A., Miliar R.P.;
Structure of chicken hypothalamic luteinizing hormone-releasing hormone. II. Isolation and characterization.";
hormone. II. Isolation and characterization.
J. Biol..Chem. 257:10729-10732(1982).
                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                          PFAM; PF00446; GnRH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=82265777; PubMe
King J.A., Millar R.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=HYPOTHALAMUS;
MEDLINE=82265778; Pu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Structure of chicken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  King J.A., Millar R.P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 24-33.
TISSUE-HYPOTHALAMUS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Characterization of the hormone-I gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Structure of avian hypothalamic gonadotrophin-releasing hormone.";
S. Afr. J. Sci. 78:124-125(1982).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FUNCTION: STIMULATES THE SECRETION OF COMMITTEE SIMILARITY: BELONGS TO THE GNRH FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CVENGSGQYWSYGVRPG
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                                                                                                                                                                                                                                                                                                          non-profit institutions as long d and this statement is not removed s requires a license agreement (See an email to license@isb-sib.ch).
                                                                                                                                                                                                                IPR002012;
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                                                                                                                                                                                                                                           S33507.
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                                                                                                                                                                                                                                                              CAA49246.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                257:10722-10728(1982)
                                                                                                                                            ; GNRH; 1. of basic
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Neognathae; Galliformes; Phasianidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            determination
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C., Sharp P.J., chicken preprogo
                                                                                                                                               residues;
PROGONADOLIBERIN I.
GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE
PYRROLIDONE CARBOXYLIC A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rp P.J., Sang H.M.;
preprogonadotrophin-releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          luteinizing hormone-releasing on on partially purified
                                                                                                                                            Hormone;
                                                                                                                                                                                                                                                                                                                                  (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GONADOTROPINS
                                                                                                                                                                                                                                                                                                                                                                                as its content
                                                                                                                                               Amidation;
                                                                                                                                                                                                                                                                                                                                                           Usage
  ACID.
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                                                                                                                                                                                                                                                                                                                                                           and
                                                                                                                                            Hypothalamus;
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Best Local S
Matches 8
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GON1_ALLMI STANDARD; PRT; 10 AA. P37041; P20407; 01-FEB-1991 (Rel. 17, Created) 01-FEB-1991 (Rel. 17, Last sequence update) 15-DEC-1998 (Rel. 37, Last annotation update) GONADOLIBERIN I (GONADOTROPIN-RELEASING HORMONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOD_RES
SEQUENCE
                                                                                                        GON1_HAPBU STANDARD; PRT; 94 AA P51918; 093387; 01-0CT-1996 (Rel. 34, Created) 30-MAY-2000 (Rel. 39, Last sequence update) 30-MAY-2000 (Rel. 39, Last annotation update GONADDOLIBERIN I PRECURSOR (GONADOTROPIN-REL
                                                                                                                                                                                                                                                                                                                                MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alligator mississippiensis (American alligator).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Archosauria; Crocodylidae; Alligatorinae; Alligator
  SEQUENCE FROM N.A. MEDLINE=95396797;
                                        Eukaryota; Metazoa; Chordata; C
Actinopterygii; Neopterygii; Tel
Acanthomorpha; Acanthopterygii;
                                                                                                                                                                            HAPBU
                                                                                                                                                                                                                                                                                                                                                                                                   PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-91352338; PubMed-1882082;
LOVejoy D.A., Fischer W.H., Parker D.B., McRory J.E., Park M.,
LANCE V., Swanson P., Rivier J.E., Sherwood N.M.;
"Primary structure of two forms of gonadotropin-releasing hormone
from brains of the American alligator (Alligator mississippiensis
Regul. Pept. 33:105-116(1991)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALLMI
                                   Cichlidae;
                                                                                        GNRH1.
                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
                                                                                                                                                                                                                                                                                                                                                                          INTERPRO; IPR002012; -. PFAM; PF00446; GnRH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-91352338;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                            Haplochromis burtoni
                                                                                                (LH-RH I) (LULIBERIN
                                                                                                                                                                                                                                                                                                                                                                                                            -!- SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (LULIBERIN I)
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                                                                                                                                                                                                                                           EHWSYGLRPG
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                                                                                                                                                                                                                      QHWSYGLQPG
                                                                                                                                                                                                                                                                                                                                                                                                 A60066; RHAQ:
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8; Conser
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8; Conser
                                                                                                                                                                                                                                                                                                                                                      Amidation;
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                                   Astatotilapia
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   PubMed=7667296;
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10206
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          52.8%;
72.7%;
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                                                                                                                                                                                                                                                                                                                       WW.
                                                                                                                                                                                                                                                                           .9%;
                                                                                                                                                                                                                                                                                                                                                                                                                       THE SECRETION OF GONADOTROPINS
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                                                                                                            (GONADOTROPIN-RELEASING
                                                                                                                                                                                                                                                               Score 56; DB Pred. No. 0.03
2; Mismatches
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••
                                           ; Craniata; Verto
Teleostei; Eutel
ii; Percomorpha;
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Pred.
                                                                                                                                                                                                                                                                                                                      AMIDATION.
284B23D7286B45A3
                                                                                                                                                                                                                                                                                                                                         PYRROLIDONE CARBOXYLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AMIDATION (G-34 PROVIDE AMIDE GROUP). 61AEB7EBAF508B6A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           57;
                                                                                                                                                                                                                                                                                                                                                                                                          FAMILY.
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                                           Vertebrata; Euteleostomi;
Euteleostei; Neoteleostei;
rpha; Perciformes; Labroide
                                                                                                                                                                                                                                                                                      DB
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                                                                                                                                                                A
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                                                                                                                                                                                                                                                                                     Length 10;
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                                                                                                                                                                                                                                                                                                                                                                                                                                          mississippiensis).";
                                                                                                             HORMONE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (GNRH-I) (LH-RH
                                                                                                                                                                                                                                                                                                                                            ACID
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                                            Labroidei;
                                                                                                            i)
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RESULT 14
GON1_CLAGA
ID GON1_C
AC P33439
AC P33439
DT 01-FEB
DT 01-NOV
DT 15-DEC
DE GONADC
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Best Local S
Matches 9
GON1_CLAGA STANDARD; PRT; 80 AA. p33439; 01-FEB-1994 (Rel. 28, Created) 01-NOV-1995 (Rel. 32, Last sequence update) 15-DEC-1998 (Rel. 37, Last annotation update) GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
                                                                                                                                                                                                                              PEPTIDE
PEPTIDE
MOD_RES
MOD_RES
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and pumpkinseed fish.";
Regul. Pept. 57:43-53(1995).
-!- FUNCTION: STIMULATES THE SECRETION OF
-!- FUNCTION: FOR THE REGULATION OF THE
                                                                                                                                                                                                                                                                                                                Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Exthe European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                       EMBL; U31865; AAC59691.1; EMBL; AF076961; AAC27716.
                                                                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=95372591; PubMed=7644702;
Powell J.F.F., Fischer W.H., Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    midbrain.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Ontogeny of gonadotropin-releasing hormone (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. MEDLINE=99061842; PubMed=9843638;
                                                                                                                                                                                                                                                                                                                                         Cleavage on
                                                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                                                            INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Primary structure of (GnRH) in cichlid pitu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sherwood N.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   White S.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=PITUITARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 23-32.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      white R.B., Fernald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     white S.A., Kasten T.L., Bond C.T., Adelman J.P., "Three gonadotropin-releasing hormone genes in on novel roles for an ancient peptide."; proc. Natl. Acad. Sci. U.S.A. 92:8363-8367(1995).
                                                                                                                       18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: BELONGS TO THE GNRH FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE SPECIFICITY: SYNTHESIZED IN PREOPTIC NEURONS AND I TRANSPORTED TO THE PITUITARY IN THE PREOPTIC-HYPOPHYSEAL MASS SPECTROMETRY: MW-1113.9; METHOD-MALDI; RANGE-23-32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GONADAL AXIS.
                                                                                                                                    PPPSSEHWSYGLRPG
                                                                                                                       PQGCCQHWSYGLSPG
                                                                                                                                                                    similarity
9; Conser
                                                                                                                                                                                                                                                                                                                              Multigene
                                                                                                                                                                                                                                                                                                                                        PS00473; GNRH; 1 on pair of basic
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                                                                                                                                                                     Conservative
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23
36
32
32
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                                                                                                                                                                               51.9%;
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                                                                                                                                                                                                                               MW;
                                                                                                                                                                                                                                                                                                                                        residues; Hormone;
                                                                                                                                                                                                                            PROGONADOLIBERIN I.
GONADOLIBERIN I.
GONH-ASSOCIATED PEPTIDE I (POTEI
PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-33 PROYIDE AMIDE GI
ENGHRIFKK -> KNDTGHSRMERFL (IN I
ESTDBA83333278D7 CRC64;
                                                                                                                                                                              Score
Pred.
                                                                                                                                                                     Mismatches
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| R.D., Lich
                                                                                                                                                                              No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              n of gonadotropin-releasing forms of GnRH in brain of c
                                                                                                                                                                                                                                                                                                                                                                                                                                   (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                 0
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Licht P.,
                                                                                                                                                                             DB
).3;
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                                                                                                                                                                                           <u>بر</u>
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ng neurons ir
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                                                                                                                                                                                            94
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 expression
n the
                                                                                                                                                                                                                                          NI)
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HORMONE

I) (GNRH-I)

(LH-RH) Clarias

(LULIBERIN

(African catfish).
Vertebrata; Euteleostomi;
Euteleostei; Ostariophysi;

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RESULT
GON1_PA
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Best Local
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                                   GONADOLIBERIN
                                                       GON1_PAGMA
P70074;
15-JUL-1998
15-JUL-1998
15-DEC-1998
                                                                                                               _PAGMA
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PEPTIDE
MOD_RES
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VARIANT
VARIANT
SEQUENCE
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or send a
                                                                                                                                                                                                                                                                                                                                               Signal SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          catfish-type and chicken-II-type gonadotropin-releasing-hormone precursors in the African catfish.";
Eur. J. Biochem. 222:541-549(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-94291651; PubMed-8020492;
Bogerd J., Zandbergen T., Andersson E.,
"Isolation, characterization and express
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Clarias gariepinus (Śharptooth catfish)
Eukaryota; Metazoa; Chordata; Craniata;
Actinopterygii; Meopterygii; Teleostei;
Siluriformes; Clariidae; Clarias.
                     Ragrus major (Red sea bream)
                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochem. Biophys.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-BRAIN;
  Actinopterygii; Neopterygii;
            Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                     Cleavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gariepinus)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bogerd J., Li K.W., Janssen-Dommerholt C., Goos H. "Two gonadotropin-releasing hormones from African
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=BRAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 25-31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                     INTERPRO; IPR002012;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY: BELONGS TO THE GNRH FAMILY.
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                                                                                                                                                                    SSEHWSYGLRPG
                                                                                                                                                                                                                                                                                                                                                                                                                 JC1242; RHID1S.
                                                                                                                                                          SAQHWSHGLNPG
                                                                                                                                                                                                                                                                                                                                                                              PF00446; GnRH;
TE; PS00473; GN
                                                                                                                                                                                                                                                                                                                                                                                                                          X78048; CAA54970.1;
X78049; CAA54971.1;
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                                                                                                                                                                                                   Similarity
8; Conserv
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                                        (Rel. 36, Created)
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IN I PRECURSOR (GONADOTROPIN-RELEASING
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(Chrysophrys major); Craniata; Vertebra Teleostei; Euteleos
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Pred.
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PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-32 PROVIDE AMIDE
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S
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                                                                                                                                                                                                   Mismatches
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                                                                                                                                                                                                              No. 0.34;
                                                                                                                                                                                                                                                                                                                                                                     Hormone; Amidation;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OF GONADOTROPINS
 Vertebrata; |
Euteleostei;
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                                            HORMONE I) (GNRH-I)
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           Euteleostomi;
  Neoteleostei;
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Search completed: Job time: 434 sec

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Matches
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                                                                                                         SEQUENCE
                                                                                                                                                       MOD_RES
                                                                                                                                                                 PEPTIDE
                                                                                                                                                                                                                                         PROSITE;
                                                                                                                                                                                                                                                   PFAM; PF00446; GnRH;
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[1]
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nitted (SEP-1996) to the F
FUNCTION: STIMULATES THE
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QHWSYGLSPG
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ne EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                             residues;
                                                                                                                                          PROGONADOLIBERIN I.
GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
PYRROLIDONE CARBOXYLIC ACID (BY
SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                       SECRETION
                                                        Score 54; DB 1
Pred. No. 0.56;
                                                                                                                                AMIDATION (G-34
                                                                                                       (BY SIMILARITY).
61E79C990328D73E
                                              Mismatches
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                                                                                                                              PROVIDE
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                                              1:
                                                                    Length 95
                                                                                                          CRC64;
                                               Indels
                                                                                                                               AMIDE
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                                              Gaps
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GenCore version 4.5 Copyright (c) 1993 - 2000 Com Compugen Ltd

OM protein - protein search, using sw model

Run on : March 2, 2001, 10:55:38; Search time 56.87 Seconds

(without alignments)
20.297 Million cell updates/sec

US-09-306-689-3

CPPPPSSEHWSYGLRPG

Perfect score: Title:

Sequence:

Scoring table: BLOSUM62 Gapop 10.0 ,

Gapext 0.5

195891 seqs, 67900655 residues

Searched:

Total number of hits satisfying chosen parameters: 195891

Minimum DB Maximum DB seq length: 0 length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database PIR_66:*
1: pir1:*
2: pir2:*
3: pir3:* pir1:*
pir2:*
pir3:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	ω	2	۲	Result No.
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potassium channel		hypothetical prote	0		hypothetical prote	gonadoliberin - ch	probable membrane	protein farnesyltr		gonadoliberin prec	=	gonadotropin relea		gonadotropin relea	· gonadotropin-relea	gonadotropin relea	Ď	_	gonadotropin-relea	Н	H						'n	gonadoliberin prec	Description

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gonadollberin precursor - human
N; Alternate names: gonadotropin releasing hormone (GnRH); luteinizing hormone releasi

N;Contains: gonadoliberin-associated protein (GAP); progonadoliberin C;Species: Homo sapiens (man) C;Date: 17-Mar-1987 #sequence_revision 21-Jul-1995 #text_change 18-Jun-1999 C;Accession: S05308; A26173; A93342; A90108; A01410; S45718

R;Hayflick, J.S.; Adelman, J.P.; Seeburg, P.H. Nucleic Acids Res. 17, 6403-6404, 1989

A;Title: The complete nucleotide sequence of the human gonadotropin-releasing hormone A;Reference number: S05308; MUID:89366682
A;Accession: S05308

A;Status: translation not shown

A; Residues: A; Molecule type: DNA A; Residues: 1-92 <HAY>

PID:g31956

A;Cross-references: EMBL:X15215; NID:g31955; PIDN:CAA33285.1; R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H. Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986 A;Title: Isolation of the gene and hypothalamic cDNA for the A;Reference number: A94090; MUID:86094338 common precursor of gona

A; Molecule type: mRNA A; Residues: 1-92 <ADE>

A;Cross-references: GB:M12578; NID:g183418; PIDN:AAA35916.1; PID:g386749 A;Experimental source: hypothalamus R;Seeburg, P.H.; Adelman, J.P. Nature 311, 666-668, 1984

A; Title: Characterization of cDNA for precursor of human luteinizing hormone releasin A; Reference number: A93342; MUID:85012739
A; Accession: A93342

A;Molecule type: mRNA A;Residues: 1-15;'S',17-92 <SEE> A;Cross-references: GB:X01059; NID:g34356; PIDN:CAA25526.1; PID:g34357

A; Experimental source: placenta

Biochem. Biophys. Res. Commun. 109, 1061-1071, 1982 A;Title: The Chemical identity of the immunoreactive A;Reference number: A90108; MUID:83126573 A;Accession: A90108 R;Tan, L.; Rousseau, P.

LHRH-like

peptide biosynthesized

A; Molecule type: protein A; Residues: 24-33 <TAN>

R; Leibovitz, D.; Koch, Y.; PI FEBS Lett. 346, 203-206, 1994 A; Experimental source: placental trophoblasts R; Leibovitz, D.; Koch, Y.; Pitzer, F.; Fridkin, : : Dantes, A.; Baumeister, ₹. Amste

A; Title: Sequential degradation of the neuropeptide gonadotropin-releasing hormone by A; Reference number: S45718; MUID:94283597 A; Contents: annotation; degradation pathway of synthetic hormone

GRH

A;Gene: GDB:GNRH; LHRH; A;Cross-references: GDB: 8p21-8p11.2 GDB: 133746; OMIM: 227200; OMIM: 152760

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A;Introns: 47/3; 79/3
C;Function:
A;Description: gonadoliberin stimulates pituitary secretion of lutropin and follitropin A;Note: gonadoliberin-associated protein may have prolactin release inhibiting activity C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid F;1-23/Domain: signal sequence #status predicted <SIG>F;24-92/Product: progonadoliberin #status predicted <PGN>F;24-92/Product: gonadoliberin #status experimental <MAT>F;37-92/Product: gonadoliberin-associated protein #status predicted <GAP>F;24-33/Product: gonadoliberin-associated protein #status predicted <GAP>F;24/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form from following gl
                                                                                                                                                                                             R;Mason, A.J.; Hayflick, J.S.; Zoeller, R.T.; Young III, V Science 234, 1366-1371, 1986
A;Title: A deletion truncating the gonadotropin-releasing A;Reference number: A47578; MUID:87069928
A;Accession: A47578
A; Description: gonadoliberin stimulates pituitary secretion of lutropin and follitropin A; Note: gonadoliberin associated protein may have prolactin release inhibiting activity C; Superfamily: gonadoliberin
                                                                   A; Introns: 45/3; 77/3 C; Function:
                                                                                                                A;Cross-references: EMBL:M14872; C;Genetics:
                                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-90 < MAS>
                                                                                                                                                                                                                                                                                                                                                            gonadoliberin precursor - mouse
N;Alternate names: gonadotropin-releasing hormone (GnRH); luteinizing hormone
N;Contains: gonadoliberin; gonadoliberin-associated protein (GAP)
C;Species: Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
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Neuroendocrinology 60, 346-339, 1994
A;Tille: Developmental expression of the
A;Reference number: IS8134; MUID:95124501
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A; Residues: 1-67 < RES>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N; Alternate names: luteinizing hormone releasing hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gonadoliberin precursor - rhesus macaque (fragment)
                                                                                                                                                                                                                                                                                                                                       Date: 31-Dec-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Species: Macaca mulatta (rhesus macaca; Date: 02-Aug-1996 #sequence_revision
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91.7%;
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1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Date: 31-Mar-1988 #sequence_revision 3i-Mar-1988 #text_change C;Accession: A40147; B26173; A48410 R;Bond, C.T.; Hayflick, J.S.; Seeburg, P.H.; Adelman, J.P. Mol. Endocrinol. 3, 1257-1262, 1989 hormone: SH locus: struck;Tile: The rat gonadotropin-releasing hormone: SH locus: struck;Reference number: A40147; MUID:89384661 A;Reference number: A40147
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                                                                                                                                                                                                                                                               F;1-23/Domain: signal sequence #status predicted <SIG>F;24-92/Product: progonadoliberin #status predicted <PGN>F;24-93/Product: gonadoliberin #status predicted <PGN>F;37-92/Product: ponadoliberin #status predicted <GLN>F;37-92/Product: prolactin release-inhibiting factor #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                          C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Introns: 47/3; C; Function:
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A; Residues: 1-92 <MAI
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A; Residues: 1-92 <ADE>
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A; Residues: 1-92 <BON>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gonadoliberin precursor -
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Matches
                                                                         Query Match
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                                        Local
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                                        Similarity
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    conservative
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91.7%;
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Pred. No. 0.014;
1; Mismatches
                                        Pred. No.
                                                                         Score 68;
    Mismatches
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6 SSEHWSYGLRPG

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A;Note: the synthetic and natural hormones have the same physicoche R;Baba, Y.; Arimura, A.; Schally, A.V.
Biochem. Bloophys. Res. Commun. 45, 483-487, 1971
A;Title: On the tryptophan residue in porcine LH and FSH-releasing A;Reference number: A90175; MUID:72117544
A;Contents: annotation
A;Note: Trp-3 appears to be essential for biological activity C;Comment: This hypothalamic hormone stimulates the secretion of bc
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                                                                                                                                                                    C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic ac F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental F;10/Modified site: amidated carboxyl end (Gly) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                 R;Matsuo, H.; Arimura, A.; Nair, R.M.G.; Schally, A.V. Biochem. Biophys. Res. Commun. 45, 822-827, 1971 A;Title: Synthesis of the porcine LH- and FSH-releasing A;Reference number: A90176; MUID:72065376 A;Contents: annotation; synthesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biochem. Biophys. Res. Commun. 44, 459-463, A; Title: Structure of the porcine LH- and F A; Reference number: A90172; MUID:72114303
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gonadoliberin - pig
c;Speckes: Sus scrofa domestica (domestic pig)
C;Date: 13-Jul-1981 #sequence_revision 13-Jul-1981
C;Accession: A01411
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R;Hayes, W.P.; Wray, S.; Battey, J.F.
Endocrinology 134, 1835-1845, 1994
A;Title: The frog GnRH-I gene has a mammalian-like
A;Reference number: I51423; MUID:94185563
A;Accession: I51423
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C;Species: Xenopus laevis (African clawed frog)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1
В
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C;Superfamily: gonadoliberin
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A; Residues: 1-89 <HAY>
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9; Conser
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81.8%;
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                                                                          Score 60; DB Pred. No. 0.01
1; Mismatches
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Pred. No. 0.12;
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FSH-releasing
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gonadoliberin - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 18-M
C;Accession: A93780; A01411
R;Burgus, R; Butcher, M; Amoss, M; Ling, N; Monahan, M; Rivier, Proc. Natl. Acad. Sci. U.S.A. 69, 278-282, 1972
A;Title: Primary structure of the ovine hypothalamic luteinizing horn A;Reference number: A93780; MUID:72094314
A;Accession: A93780
A;Molecule type: protein
A;Residues: 1-10 <BUR>
A;Note: the natural and synthetic hormones have the same biological of comment: This hypothalamic hormones timulates the secretion of both C;Comment: This hypothalamic hormones have the same biological of c;Superfamily: gonadoliberin C;Superfamily: gonadoliberin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species; Gallus gallus (chicken)
C;Species; Gallus gallus (chicken)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999
C;Accession: 150644; S33507
R;Dunn, I.C.; Chen, Y; Hook, C; Sharp, P.J.; Sang, H.M.
J. Mol. Endocrinol. 11, 19-29, 1993
A;Title: Characterization of the chicken preprogonadotrophin-releasing hormod A;Reference number: 150644; MUID:94059355
A;Accession: 150644
A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company Applies of the chicken preprogonadotrophin-releasing hormod A;Status: translated from Company A;
                                                                                                                                                                                                                                            N;Alternate names: gonadotropin-releasing hormone I
C;Species: Alligator mississippiensis (American alligator)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_c
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A;Introns: 47/3; 79/3
C;Superfamily: gonadol
R;Lovejoy, D.A.; Fischer, W.H.; Parker, D.B.; McRory, J.E.; Park, M.; Lance, Regul. Pept. 33, 105-116, 1991
A;Title: Primary structure of two forms of gonadotropin-releasing hormone fro A;Reference number: A60066; MUID:91352338
                                                                                                                                                                                                                                                                                                                                                          gonadoliberin I - American alligator
N;Alternate names: gonadotropin-rele
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A; Residues: 1-92 < DU2>
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8; Conserv
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9; Conservative
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90.0%;
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Pred. No.
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Pred. No.
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31-Dec-1991 #text_change 18-Mar-1997
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A60066

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A; Molecule type: protein
A; Residues: 1-10 <LOV>
A; Residues: 1-10 <LOV>
C; Superfamily: gonadoliberin
C; Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F; 1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F; 10/Modified site: amidated carboxyl end (Gly) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gonadoliberin I precursor - sharptooth catfish
N;Alternate names: gonadoliberin, catfish-type; gonadotropin-releasing hormone I (GnR:
N;Contains: gonadoliberin I; gonadoliberin I-associated protein form I; gonadoliberin
C;Species: Clarias garlepinus (sharptooth catfish)
C;Date: 30-Sep-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C;Accession: S45601; S45601; JC1242; S42937
C;Accession: S45602; S45601; JC1242; S42936; S42937
R;Bogerd, J; Zandbergen, T; Andersson, E.; Goos, H.
Eur. J. Biochem. 222, 541-549, 1994
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C;Species: Haplochromis burtoni
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change
C;Accession: ISO739
                                               A;Reference number: JC1242; MUID:92392313
A;Accession: JC1242
                                                                                               R;Bogerd, J.; Li, K.W.; Janssen-Dommerholt, C.; Goos, H.
Biochem. Biophys. Res. Commun. 187, 127-134, 1992
A;Title: Two gonadotropin-releasing hormones from African catfish (Clarias gariepinus).
                                                                                                                            A; Note: gonadoliberin I-associated protein form II, pr
A; Note: gonadoliberin I-associated protein form II, pr
R; Bogerd, J.; Li, K.W.; Janssen-Dommerholt, C.; Goos,
Piochem Biophys. Res. Commun. 187, 127-134, 1992
                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 1-46,'S',48-59,'G',61-80 <BOG2>
A; Cross-references: EMBL:X78048; NID:g459431; PIDN:CAA54970.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                A;Title: Isolation, characterization and expression of cDNAs encoding the catfish-type A;Reference number: S45600; MUID:94291651
A;Accession: S45602
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A;Residues: 1-98 <WHI>
A;Cross-references: EMBL:U31865; NID:g905398; PIDN:AAC59691.1; PID:g905399
C;Superfamily: gonadoliberin
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  A; Molecule type: protein A; Residues: 22-31 < BOG3>
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A; Residues: 1-80 <BOG1>
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Pred. No. 0.054;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           organism suggest novel roles
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                                                                                                                                                                            PID:g459432
o be a polymorphic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
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A; Introns: 38/3; 65/3
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A;Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mana.
A;Reference number: I51040; MUID:92267241
A;Recession: I51092
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                    gonadotropin releasing hormone - chinook salmon (fragment)
C;Speciles: OncorNynchus tschawytscha (chinook salmon)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Aug-1997
C;Accession: I51092
R;Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       class VII unconventional myosin - slime mold (Dictyostelium discoideum) C; Species: Dictyostelium discoideum
                                                                                                                                                                                                                                                              I51092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Superfamily: myosin motor domain homology F;16-676/Domain: myosin motor domain homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Title: A class VII unconventional A; Reference number: A59249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R; Titus, M.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Titus, M.A.; Kuspa, A.; Loomis, W.F.
Proc. Natl. Acad. Sci. U.S.A. 91, 9446-9450, 1994
A;Title: Discovery of myosin genes by physical mapping
A;Reference number: Z20873; MUID:95023928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Date: 19-May-2000 #sequence_revision 19-May-2000
A;Gene: GnRH
                C; Genetics:
                                                A; Molecule type: DNA
A; Residues: 1-74 <KLU>
                                                                                                                                                                                                                                                                              RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Contents:
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A;Cross-references: GB:L35321;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Status: preliminary; not compared with
                                  A;Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Accession: A59249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; Genetics:
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Best Local
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Best Local
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hes 8; Conserv
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9; Conserv
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                                  EMBL: X79711;
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oI; product class VII unconventional myosin
                                NID:g499322;
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Pred. No.
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Pred. No.
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0.66;
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gonadotropin releasing hormone - Atlantic salmon C;Species: Salmo salar (Atlantic salmon) C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000 C;Accession: I51356; I51355
R;Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P. Wol. Cell. Endocrinol. 84, 167-174, 1992
A;Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA. A;Accession: I51356
A;Accession: I51356
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gonadotropin-releasing hormone - cherry salmon
C;Species: Oncorhynchus masou (cherry salmon)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Aug-1997
C;Accession: I51180
R;Suzuki, M.; Hyodo, S.; Kobayashi, M.; Aida, K.; Urano, A.
J. Mol. Endocrinol. 9, 73-82, 1992
A;Title: Characterization and localization of mRNA encoding the salmon-type gonadotrophi A;Reference number: I51180; MUID:92384893
A;Accession: I51180
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Cornel tree. The control of the control of
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A; Residues: 1-82 <KLU>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: DNA
A; Residues: 1-82 <KL2>
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A;Accession: I51355
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A;Residues: 1-82 <SUZ>
A;Cross-references: GB:S44614; NID:g254824; PID:g254825
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I51180
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                                                                                                                                                                                                                                                                                                                                                                           A;Gene: GnRH
                                                                                                                                         Ouery Match 47.2%;
Best Local Similarity 72.7%;
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 47.
Best Local Similarity 72.
Matches 8; Conservative
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Best Local Similarity
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                                                                        7 SEHWSYGLRPG 17
SQHWSYGWLPG 33
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72.78;
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                                                                                                                                         Score 51; DB Pred. No. 2.3; 1; Mismatches
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Pred. No.
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Search completed: March 2, 2001, 10:55:39

Job time: 259 sec

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GenCore version 4.5 Copyright (c), 1993 - 2000 Compugen Ltd

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Result
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Maximum Match 100%
Listing first 45 summaries
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1: Sp_archea:*
2: Sp_bacteria
3: Sp_fung1:*
4: Sp_human:*
5: Sp_inverteb
6: Sp_mammal:*
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Match
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11:
12:
13:
14:
74.1
72.4
67.2
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sp_fungi:*
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                                                                                                                                                                                                                                                                                                                                                                                        sp_rodent:*
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Q9S299
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Q9SZR5
Q9W7G0
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Q9YI26
073812
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16.894 Million cell updates/sec
      082588 arabidopsis
09szr5 arabidopsis
09w7g0 oncorhynchu
09pt34 oncorhynchu
092094 oncorhynchu
09480 oncorhynchu
09180 oncorhynchu
09189 oncorhynchu
09189 oncorhynchu
09189 sparus aura
091a09 dicentrarch
09s29 streptomyce
022613 kosteletzky
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Q9yi26 sparus aura
O73812 morone saxa
Q9ialO dicentrarch
Q9iau2 rana dybows
                                                                                                                                                       Q9kmll vibrio
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A stolers are form	Ogvar2 apropur	ara	077690 bos taurus	Q14870 homo sapien	023482 arabidopsis	~	Q9jq41 chlamydia	Q910n3 streptomyce	Q910n4 streptomyce	Q910n5 streptomyce	Q21256 caenorhabdi	Q9rvd8 deinococcus		Q9urs6 kluyveromyc	· 051920 streptomyce	O28696 archaeoglob	Q9u340 caenorhabdi		Q9sajl arabidopsis	Q9swh2 nicotiana	Q9m8n3 arabidops	Q9u9u4 drosophila		Q9sq64 papaver som	Q9x2p4 mycobacteri	Q9m4n3 medicago
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ALIGNMENTS

RESULT Q9PRH0

Q9PRHO;

PRELIMINARY;

PRT;

91

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01-MAY-2000 (TrEMBLrel. 01-MAY-2000 (TrEMBLrel. 01-JUN-2000 (TrEMBLrel.

13, 13, 14,

Created)
Last sequence update)
Last annotation update)

PREPRO-MGNRH PRECURSOR

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Query Match
Best Local Similarity
Matches 8; Conserv
                                                                                                                Okubo K., Suetake H., Aida K.;

"A splicing variant for the prepro-mammalian gone hormone (prepro-mGnRH) mRNA is present in the braperipheral tissues of the Japanese eel.";

2001. Sci. 16:645-651(1999).

EMBL; AB02699; BAA82608.1; -.

EMBL; AB026991; BAA83597.1; -.

INTERPRO; IPRO0416; GnRH; 1.

PROSITE; PS00473; GNRH; 1.
                                                         Signal.
SIGNAL
CHAIN
CHAIN
SEQUENCE
                                                                                                                                                                                                                                                            Okubo K., Suetake H., Aida K.;
"Expression of two gonadotropin-releasing hormone (GnRH) precursor genes in various tissues of the Japanese eel and evolution of GnRH.";
Zool. Sci. 16:471-478(1999).
                                                                                                                                                                                                                                                                                                                                                       Anguilla japonica (Japanese eel).
Eukaryota; Metazoa; Chordata; Craniata;
Actinopterygii, Neopterygii; Teleostei;
Anguillidae; Anguilla.
                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=7937;
                                                                                                                                                                                                                                                                                                            TISSUE=BRAIN;
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                                                                       23
33
                                                            ĀĀ;
                                                           9893
                                                                        32
91
            87.9%;
                                                            ¥
Score 51; DB 13;
Pred. No. 0.023;
0; Mismatches 1
                                                         MGNRH.

GNRH ASSOCIATED PEPTIDE
BA15C9DC08434A7B CRC64;
                                                                                             POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                   Vertebrata; Eute
Anguilliformes;
                                                                                                                                                                                                  gonadotropin-releasing
e brain and various
                       Length 91;
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mes; Anguilloidei;
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Conservative

Indels

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Gaps

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HWSYGLRPG

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HWSYXLRPG

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PACE OF THE STATE 
RESULT
073812
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Best Local
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O1-AUG-1998
O1-AUG-1998
O1-OCT-2000
                                                                                                SEQUENCE FROM N.A.

Chow M.M., Kight K.E., Gothilf Y., Alok D., Zohar Submitted (MAR-1998) to the EMBL/GenBank/DDBJ data in FUNCTION: STIMULATES THE SECRETION OF BOTH LUT FOLLICLE-STIMULATING HORMONES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hormone;
NON_TER
NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9YI26;
Q9YI26;
                                                                                                                                                                                                                                                             Morone saxatilis (Striped bass).
Bukaryota; Metazoa; Chordata; Craniata;
Actinopterygii; Neopterygii; Teleostei;
Acanthomorpha; Acanthopterygii; Percomoz
                                                                                                                                                                                                                                                                                                                                                                          01-AUG-1998 (TrEMBLrel. 07, Created)
01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-CCT-2000 (TrEMBLrel. 15, Last annotation update)
GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sparus aurata (Gilthead sea bream).
Eukaryota; Metazoa; Chordata; Craniata;
Actinopterygii; Neopterygii; Teleostei;
Acanthomorpha; Acanthopterygii; Percomor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        073812
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01-MAY-2000
                                              INTERPRO;
                                                                                                                                                                                                                                        NCBI_TaxID=34816;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- FUNCTION: STIMULATES THE
FOLLICLE-STIMULATING HOL
-!- FUNCTION: STIMULATES THE
EMBL, AF046801; AAD02427.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (FEB-1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nabissi M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=OVARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=8175;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAY-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22 HWSYGLSPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ν
                                                              FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS L; AF056314; AAD03817.1; -.
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                    PF00446;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PS00473; GNRH; 1.
PS00473; GN
                                       IPR002012;
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(TrEMBLrel. 10, Last sequence update)
(TrEMBLrel. 13, Last annotation update)
IN (GONADOTROPIN-RELEASING HORMONE) (GNRH)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
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77.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          to the EMBL/GenBank/DDBJ «
ATES THE SECRETION OF BOTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HORMONES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 THE SECRETION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 45; DB 1; Pred. No. 0.28; 0; Mismatches
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Euteleostei; Neoteleostei;
rpha; Perciformes; Percoidei;
                                                                                                                                                                                                                                                                                       Euteleostei; Neoteleostei;
rpha; Perciformes; Percoide
                                                                                                                                                                                                                                                                                                                              Vertebrata; Euteleostomi;
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                                                                                                                              databases.
H LUTEINIZING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2
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                                                                                                                                                                                                                                                                                                                                                                              (GNRH)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 87;
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                                                                                                                                                                                                                                                                                                                                                                              (LULIBERIN)
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                                                                                                                                                                                                                                                                                       Percoidei;
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RESULT Q91AU2
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Q9IA10
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Matches 7
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Best Local :
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Q9IAU2;
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9IA10;
                                                                                                                                                           01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
01-OCT-2010 (TrEMBLREL. 15, Last annotation update)
GONADOTROPIN-RELEASING HORMONE.
Rana dybowskii (Frog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (JAN-2000)
EMBL; AF224279; AAF6
SEQUENCE 99 AA; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Verte
Actinopterygii; Neopterygii; Teleostei; Eutei
Acanthomorpha; Acanthopterygii; Percomorpha;
Moronidae; Dicentrarchus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
GONADOTROPIN RELEASING HORMONE SEABREAM ISOFORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hormone; Amidation. SEQUENCE 95 AA;
                   TISSUE=BRAIN;
Yoo M.S., Kan
                                                                                                                       Eukaryota; Metazoa;
Amphibia; Batrachia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dicentrarchus labrax (European sea bass)
                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (JAN-2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gonzalez-Martinez
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-BRAIN;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRODOM; PD005581; -;
                                                                                                 NCBI_TaxID=71582;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Differential expression of three different prepro-GnRH (Gonadotrophin-releasing hormone) messengers in the brain European sea bass (Dicentrarchus labrax).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zohar Y., Elizur A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lmora
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GnRH form in the seabass
                                                                                                                                                                                                                                                                                                                                                                                                                                  2 HWSYXLRPG 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FROM N.A.
                   Kang
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                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                   н.м.,
                                                                                                                                                                                                                                                                                                                                                                                            36
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A; 10758
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                                                                                                                                          Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Elizur A.;
seabass Dicentrarchus labrax.";
to the EMBL/GenBank/DDBJ datab
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Munoz-Cueto J.A.,
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                     Choi
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MW;
                   H.S.,
                                                                                                                       n; Craniata; VNeobatrachia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 45; DB Pred. No. 0.32 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 45; DB
Pred. No. 0.31
0; Mismatches
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                                                                                                                                                                                                                                                                                        PRT;
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                     S.Y., Troskie
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1.31;
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1.32;
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Euteleostei; Neoteleostei
                                                                                                                       Vertebrata;
a; Ranoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       databases
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CRC64;
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                     В.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ι.,
                                                                                                                       Euteleostomi;
Ranidae; Rana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Neoteleostei;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99
                     Millar R.P.,
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Best Local S
Matches 6
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Best Local S
Matches 7
                                                                                                  O82588 PRELIMINARY;
O82588;
O1-NOV-1998 (TrEMBLrel. 08, C
O1-NOV-1998 (TrEMBLrel. 15, I
O1-CT-2000 (TrEMBLrel. 15, I
E1104.7 PROTEIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.

STRAIN=EL TOR N15961 / SEROTYPE 01;

MEDLINE=20406833; PubMed=10952301;

Heidelberg J.F., Eisen J.A., Nelson W.C., Clayton R.A., Gwinn M. Dodson R.J., Hickey E.K., Peterson J.D., Umayam L.A., Dodson R.J., Nelson K.E., Read T.D., Tettelin H., Richardson D., Ermolaeva M.D., Vamathevan J., Bass S., Qin H., Dragoi I., Selle McDonald L., Utterback T., Fleishmann R.D., Nierman W.C., White Salzberg S.L., Smith H.O., Colwell R.R., Mekalanos J.J., Venter Fraser C.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9KM11;
01-OCT-2000
01-OCT-2000
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Molecular Cloning, Distribution and of a Novel Gonadotropin-Releasing HC Mol. Cell. Endocrinol. 0:0-0(2000). EMBL; AR139911; AAR444343.1; -. SEQUENCE 90 AA; 10368 MW; C3D57:
                                           Eukaryota; Viridiplantae; Embryophyta; Tracheo Magnoliophyta; eudicotyledons; core eudicots; Brassicales; Brassicaceae; Arabidopsis.
 SEQUENCE FROM N.A. STRAIN-CV. COLUMBIA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-OCT-2000 (TrembLrel.
01-OCT-2000 (TrembLrel.
01-OCT-2000 (TrembLrel.
HYPOTHETICAL PROTEIN VCA
                                                                              Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                          Nature 406:477-483(2000).
EMBL; AE004388; AAF96480.1;
                                                                                                                                                                                                                                                                                                                                                                     cholerae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vibrio cholerae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VCA0578.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9KM11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=666;
                                                                                                                                                                                                                    179
                                                                                                                                                                                                                                                                                                                                                                    DNA sequence of both chromosomes
:holerae.";
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VCA0578; -
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6; Conser
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                                                                                                                                                                                                                                                                                                                       565 AA;
                                                                                                                                                                                                                                                               Conservative
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                                                                                                                                                                                                                                                                                                                      64837 MW;
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rel. 15, L
rel. 15, L
v VCA0578.
                                                                                                                                                                                                                                                                        72.4%;
                                                                              (Mouse-ear
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77
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gamma
                                                                                                                                                                                                                                                             ; Score 42; DB; Pred. No. 6.5; 1; Mismatches
                                                                                                            Created)
Last sequ
Last anno
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Last sequence update)
Last annotation updat
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C3D573E78B52ABFA CRC64;
                                                                                                                                                                                                                                                                                                                       366D8479E2ADE303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             subdivision; Vibrionaceae;
                                                                                                              sequence update)
annotation update)
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                                                       Tracheophyta; S
dicots; Rosidae;
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                                                                                                                                                                                                                                                                                                                                                                            cholera pathogen Vibrio
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                                                                                                                                                                                                                                                                                  Length 565;
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                                                                                                                                                                                                                                                              Indels
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                                                       Spermatophyta;
e; eurosids II;
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Best Local S
Matches 6
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INTERPRO; IPR002885; -
PRAM; PF01535; PPR; 9
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SOR
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STRAIN-CV. COLUMBIA;
Abu-Threideh J., Stoneking T., Langston
"The sequence of A. thaliana F1104.";
Submitted (OCT-1998) to the EMBL/GenBan
                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.

EU Arabidopsis sequencing project;
Submitted (MAR-1999) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

Bevan M., Zimmermann W., Grueneisen A., Wambut Mewes H.W., Mayer K.F.X., Schueller C.;
Submitted (MAY-1999) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F27B13.190 OR AT4G29950.
Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Embryophyta; Trachec
Magnoliophyta; eudicotyledons; core eudicots;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-CCT-2000 (TrEMBLrel. 15, Last annotation updat
HYPOTHETICAL 93.2 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9SZR5;
  Hypothetical protein. SEQUENCE 828 AA; 93177
                                                          EU Arabidopsis sequencing pr
Submitted (MAR-2000) to the
EMBL; AL050352; CAB43670.1;
EMBL; AL161575; CAB79753.1;
                                                                                                                                                                                                             Zimmermann
Smith A.,
                                                                                                                                                                                            Submitted
                                                                                                                                                                                                                                                      SEQUENCE FROM N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Magnoliophyta; eudicotyledons; core euc
Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
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                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=3702;
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                                             NTERPRO;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FROM
                                                                                                                                                                                                             Mewes H.W., Lemcke K., Mayer K.
                                             IPR000195; -.
                                                                                                                                                                                          (MAR-2000)
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the EMBL/GenBank/DDBJ
  MW;
                                                                                                                           project;
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                                                                                                       EMBL/GenBank/DDBJ
                                                                                                                                                                                          e K., Mayer K.F.X.;
EMBL/GenBank/DDBJ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 39; DB Pred. No. 21; 0; Mismatches
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  C4B050A332BC5706
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tracheophyta; S
dicots; Rosidae;
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F.X.;
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e; eurosids II;
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Query Match Best Local S Matches 6

Similarity
6; Conserv

Conservative

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Pred. No. 34;); Mismatches Score

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Indels

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No.

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Length 828;

67.2**%**; 66.7**%**;

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HWSYXLRPG

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Best Local S
Matches 6
                                                                                                                                                                                                                                                                                                                                   Q9PT34;
01-MAY-2000
01-MAY-2000
01-JUN-2000
SEQUENCE FROM N.A.
MEDLINE-99312119; PubMed=10385393;
Von Schalburg K.R., Sherwood N.M.;
"Regulation and expression of gonadotropin-releasing differs in brain and gonads in rainbow trout.";
Endocrinology 140:3012-3024(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 L1
SEQUENCE FROM N.A.
MEDLINE-99312119; PubMed=10385393;
MEDLINE-9931219; PubMed=1038539;
MEDLINE-9931219; PubMed=1038539;
MEDLINE-9931219; PubMed=1038539;
MEDLINE-9931219; PubMed=1038539;
MEDLINE-9931219;
MEDLINE-993121
                                                                                                                                                                                            Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eukariopterygii; Metazoa; Enopterygii; Teleostei; Euteleostei; Protacanthopterygii; Salmoniformes; Salmonidae; Oncorh
                                                                                                                                                                                                                                                                                                             01-MAY-2000 (Tremblrel.
01-MAY-2000 (Tremblrel.
01-JUN-2000 (Tremblrel.
GONADOTROPIN-RELEASING F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.

Sibmitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.

-I- FUNCTION: STIMULATES THE SECRETION OF BOTH LUTEINIZING FOLLICLE-STIMULATING HORMONES.

-I- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.

EMBL; AF110993; AAD43463.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LULIBERIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii, Neopterygii; Teleostei; Euteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9PT34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Regulation and expression of gonadotropin-releasing differs in brain and gonads in rainbow trout."; Endocrinology 140:3012-3024(1999).
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01-NOV-1999
                                                                                                                                                   NCBI_TaxID=8022
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=8022;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 6; Conser
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(TrEMBLrel. 12,
(TrEMBLrel. 13,
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3668 MW;
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66.7%;
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Last annotation update)
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Pred. No.
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2.1;
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                                                                                                                                                                                                                                            Euteleostomi;
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Best Local S
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Best Local
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PROSITE; PS00473; GNRH; 1.
NON_TER 33
SEQUENCE 32
                                                                                  Matches
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Q92094;
01-NOV-1996
01-NOV-1996
01-OCT-2000
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
Sherwood
Submitted (DEC-1998) to the
EMBL; AF110533; AAA43461.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Two differing precursor genes for the releasing hormone exist in salmonids. J. Mol. Endocrinol. 15:1-9(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Oncorhynchus nerka (Sockeye salmon).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleos!
Actinopterygii; Meopterygii; Teleostei; Euteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-CCT-2000 (TrEMBLrel. 15, Last annotation update)
GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LULIBERIN)
                                                                                                                                                                                                                                                       Signal; Hormone; SIGNAL 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
STRAIN=NIKKO; TISSUE=BRAIN;
                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                       CHAIN
                                                                                                                                                                                                                                                                                                 PROSITE; PS00473; GNRH; 1. PRODOM; PD006549; -; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                              -!- FUNCTION: STIMULATES THE SECRETION OF EMBL; D31868; BAA06666.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Urano A., Aida K.;
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                                                                                                                                                                                                                                                                                                                                              PROSITE; PS00256; AKH; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                        INTERPRO; IPRO02047;
                                                                                                                                                                                                                                                                                                                                                                                                          INTERPRO; IPR002012; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ashihara M., Suzuki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=96020547;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=8023
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25
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RPRO; IPRO02047;
; PF00446; GRRH;
                                          HWSYXLRPG
  HWSYGWLPG
                                                                                                                                                                                                                                                                                                                                                                  PF00446;
                                                                                  Similarity 6; Conser
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                                                                                    Conservative
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                                                                                                                                                                                                                                                       Amidation.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     M., Kubokawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sherwood N.M.;
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                                                                                  Score 38; DB Pred. No. 5.2; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1FE1535E742B7EBB
                                                                                                                                                                                           GNRH-ASSOCIATED PEPTIDE C64044EA521B2B8B CRC64;
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                                                                                                                                                                                                                                       GNRH.
                                                                                                                                                                                                                                                           POTENTIAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        82
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                                                                                                      *Ferriere F., Bailhache T., Jego P.;
*Oncorhynchus mykiss sGnRH-I CDNA from brain.";
Submitted (FEB-2000) to the EMBL/GenBank/DDBJ d
EMBL; AF232212; AAF91280.1; -.
SEQUENCE 82 AA; 9198 MW; 7595A0B896556A69 C
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MEDILINE-99312119; PubMed=10385393;

Von Schalburg K.R., Sherwood N.M.;

Regulation and expression of gonadotropin-releasing differs in brain and gonads in rainbow trout.";

Endocrinology 140:3012-3024(1999).
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(GONADOTROPIN-RELEASING HORMONE) (GNRH)
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Nabissi M.;
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NCBI_TaxID=8175;
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Eukaryota; Metazoa; Chordata; Craniata;
Actinopterygii; Neopterygii; Teleostei;
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01-MAY-2000
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Actinopterygii; Neopoterygii; Teleostei; Euteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
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В

25

HWSYGWLPG

Search completed: March 2, 2001, 11:00:45 Job time: 455 sec

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Result
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Maximum Match 100%
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Copyright (c) 1993 - 2000 Comp
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C;Accession: A01411
R;Baba, Y; Matsuo, H; Schally, A.V.
Biochem. Blophys. Res. Commun. 44, 459-463,
A;Title: Structure of the porcine LH- and Fi
A;Reference number: A90172; MUID:72114303

FSH-releasing 1971

hormone.

II. Confirmation

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A; Accession: A01411

gonadoliberin - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 13-Jul-1981 #sequence_revision 13-Jul-1981

#text_change 18-Mar-1997

						1	RESULT
_		ALIGNMENTS					
	anthranilate phosp	T47922	2	972	58.6	34	45
	complement C3b rec	A45900	Ν	676	58.6	34	44
	probable ribosomal	S55146	Ν	486	58.6	34	43
	hypothetical prote	T28864	N	351	58.6	34	42
	aldose reductase h	A53440	N	316	58.6	34	41
	ribosomal protein	G71506	N	138	58.6	34	40
	hypothetical prote	F72531	N	119	58.6	34	39
	hypothetical prote	T47993	ພ	1232	60.3	35	38
	macrophage-stimula	A47136	<u>, , , , , , , , , , , , , , , , , , , </u>	711	60.3	35	37
	hypothetical prote	D71430	N	691	60.3	35	36
	DNA helidase II -	S57527	N	611	60.3	35	35
	4-alpha-glucanotra	G72091	N	526	60.3	35	34
	hypothetical prote	C83592	N	492	60.3	35	33
	cellulase (EC 3.2.	CZCLAM	۳	477	60.3	35	32
	ribosomal protein	S54026	N	390	60.3	35	31
	hypothetical prote	T23358	2	220	60.3	35	30

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gonadoliberin - sheep
gonadoliberin - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 18-Mar-1997
C;Accession: A93780; A01411
R;Burgus, R; Butcher, M; Amoss, M; Ling, N; Monahan, M; Rivier, J; Fellows, Proc. Natl. Acad. Sci. U.S.A. 69, 278-282, 1972
A;Title: Primary structure of the ovine hypothalamic luteinizing hormone-releasing A;Reference number: A93780; MUID:72094314
A;Accession: A93780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: protein
A; Residues: 1-10 < CABB>
A; Residues: 1-10 < CABB>
R; Matsuo, H; Arimura, A.; Nair, R.M.G.; Schally, A.V.
R; Matsuo, H.; Arimura, A.; Nair, R.M.G.; Schally, A.V.
Biochem. Biophys. Res. Commun. 45, 822-827, 1971
A; Title: Synthesis of the porcine LH- and FSH-releasing hormone by the solid-phase
A; Reference number: A90176; MOID: 72065376
A; Contents: annotation; synthesis
A; Note: the synthetic and natural hormones have the same physicochemical and biolog
R; Baba, Y; Arimura, A.; Schally, AV.
Biochem. Biophys. Res. Commun. 45, 483-487, 1971
A; Title: On the tryptophan residue in porcine LH and FSH-releasing hormone.
A; Reference number: A90175; MUID: 72117544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Superfamily: gonadoliberin c;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental F:10/Modified site: amidated carboxyl end (Gly) #status experimental
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Contents: annotation
A;Note: Trp-3 appears to be essential for biological activity
C;Comment: This hypothalamic hormone stimulates the secretion
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Best Local S
Matches 8
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2 HWSYGLRPG 10
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                                                               of the ovine hypothalamic luteinizing hormone-releasing MUID:72094314
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Pred. No. 0.00
0; Mismatches
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A; Molecule type: protein
A; Molecule type: protein
A; Residues: 1-10 <BOR>
A; Residues: 1-10 <BOR>
A; Note: the natural and synthetic hormones have the same biological activity
C; Comment: This hypothalamic hormone stimulates the secretion of both luteinizing
C; Superfamily: gonadoliberin
C; Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F; 1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F; 10/Modified site: amidated carboxyl end (Gly) #status experimental
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Neuroendocrinology 60, 346-359, 1994
A;Title: Developmental expression of the genes encodering the property of the genes encodering the property of the genes encodering the property of the property of the genes encodering the property of the propert
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                                                                                                                                                                                                                                                                                                                                                                                                             R;Hayes, W.P.; Wray, S.; Battey, J.F.
Endocrinology 134, 1835-1845, 1994
A;Title: The frog GnRH-I gene has a mammalian-like A;Reference number: I51423; MUID:94185563
A;Accession: I51423
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N;Alternate names: luteinizing hormone releasing hormone C;Species: Xenopus laevis (African clawed frog) C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999 C;Accession: I51423
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A; Cross-references:
C; Superfamily: gonar
   δÃ
                                                                                                                                                                                                                        A; Gene: GnRH-I
C; Superfamily:
                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-89 <HAY>
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Best Local S
Matches 8
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2 HWSYGLRPG 10
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88.98;
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A;Description: gonadoliberin Stimulates printing have prolactin release inhibiting, where gonadoliberin associated protein may have prolactin release inhibiting; Superfamily: gonadoliberin C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid cid companies signal sequence #status predicted companies of the companies of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N;Alternate names: gonadotropin releasing hormone (GnRH); luteinizing hormone R;Contains: gonadoliberin-associated protein (GAP); progonadoliberin C;Specias: Homo sapiens (man) C;Date: 17-Mar-1987 #sequence_revision 21-Jul-1995 #text_change 18-Jun-1999 C;Accession: S05308; A26173; A93342; A90108; A01410; S45718 R;Hayflick, J.S.; Adelman, J.P.; Seeburg, P.H. Nucleic Acids Res. 17, 6403-6404, 1989 A;Title: The complete nucleotide sequence of the human gonadotropin-releasing A;Title: The complete nucleotide sequence of the human gonadotropin-releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F;1-23/Domain: signal sequence #status predicted <SIG>
F;22-31/Product: gonadoliberin #status predicted <GLB>
F;32-90/Product: gonadoliberin-associated protein #status predicted <GAP>
F;22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form from foll F;31/Modified site: amidated carboxyl end (Gly) (amide in mature form from foll
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N;Alternate names: gonadotropin-releasing hormone (GnRH); luteinizing hormone releasi
N;Contains: gonadoliberin; gonadoliberin-associated protein (GAP)
C;Species: Mus musculus (house mouse)
C;Date: 31-Dec-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                     R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Se
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic
A;Reference number: A94090; MUID:86094338
A;Accession: A26173
                                                                                                                                                                                A; MoLecule type: mRNA
A; Residues: 1-92 < ADE>
A; Cross-references: GB: M12578; NID: g183418;
A; Experimental source: hypothalamus
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C; Accession: A47578
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A; Title: Characterization of cDNA for precursor of human luteinizing A; Reference number: A93342; MUID:85012739
                                                                                          R; Seeburg, P.H.; Adelman, J.P. Nature 311, 666-668, 1984
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A; Residues: 1-92 <HAY>
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A; Residues: 1-90 <MAS>
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Pred. No. 0.016;
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C:Species: Rattus norvegicus (Norway rat)
C:Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change
C:Accession: A40147; B26173; A48410
R:Bond, C.T.; Hayflick, J.S.; Seeburg, P.H.; Adelman, J.P.
Mol. Endocrinol. 3, 1257-1262, 1989
A;Title: The rat gonadotropin-releasing hormone: SH locus: struce A; Reference number: A40147; MUID:89384661
A; Accession: A40147
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A;Cross-references: GB:M12579; NID:g204445; PIDN:AAA41263.1; R;Maier, C.C.; Marchetti, B.; LeBoeuf, R.D.; Blalock, J.E. Cell. Mol. Neurobiol. 12, 447-454, 1992
A;Title: Thymocytes express a mRNA that is identical to hypoda;Reference number: A48410; MUID:93105480
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A;Residues: 24-33 <TAN>
A;Residues: 20-33 <TAN>
A;Experimental source: placental trophoblasts
A;Experimentz, D.; Koch, Y.; Pitzer, F.; Fridkin, M.; Dantes, A.; Baumeister, W.;
FEBS Lett. 346, 203-206, 1994
A;Title: Sequential degradation of the neuropeptide gonadotropin-releasing hormo
A;Reference number: S45718; MUID:94283597
                                                                                                                                                                                                               A;Cross-references: GB:M31670; NID:g204447; PIDN:AAA41264.1; R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H. Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986 A;Title: Isolation of the gene and hypothalamic cDNA for the A;Reference number: A94090; MUID:86094338 A;Accession: B26173
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A:Introns: 47/3; 79/3
C:Function:
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A; Residues: 1-15, 'S', 17-92 <SEE>
                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-92 < ADE>
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A; Residues: 1-92 <BON>
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A;Cross-references: GDB:133746; OMIM:227200; OMIM:152760
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: GB:X01059; NID:g34356; PIDN:CAA25526.1; PID:g34357
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Best Local
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8; Conserv
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88.9%;
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                               identical to hypothalamic luteinizing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1;
0.017;
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form from foli
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C;Superfamily: gonadoliberin
;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic aci
f;I/Modified site: pyrrolldone carboxylic acid (Gln) #status experimental
f;10/Modified site: amidated carboxyl end (Gly) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Alligator mississippiensis (American alligator)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Mar-1997
C;Accession: A60066
R;Lovejoy, D.A.; Fischer, W.H.; Parker, D.B.; McRory, J.E.; Park, M.; Lance, V.;
Regul Pept. 33, 105-116, 1991
A;Title: Primary structure of two forms of gonadotropin-releasing hormone from br A;Reference number: A60066; MUID:91352338
A;Accession: A60066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Description: stimulates pituitary secretion of lutropin and follitropin A; Note: gonadoliberin-associated protein may have prolactin release inhibit c; Superfamily: gonadoliberin
C; Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyrogl F;1-23/Domain: signal sequence #status predicted <SIG>F;24-92/Product: progonadoliberin #status predicted <PGN>F;24-33/Product: gonadoliberin #status predicted <GLN>F;24-33/Product: gonadoliberin #status predicted <GLN>F;37-92/Product: prolactin release-inhibiting factor #status predicted <PIF;37-92/Product: prolactin release-inhibiting factor #status predicted <PIF;33/Modified site: amidated carboxyl end (Gly) (amide in mature form from F;33/Modified site: amidated carboxyl end (Gly) (amide in mature form from
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N; Alternate names: gonadotropin-releasing hormone I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gonadoliberin I - American alligator
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: mRNA
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Best Local
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N
                                                2 HWSYXLRPG
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HWSYGLQPG
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8; Conserv
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88.9%;
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77.8%;
                                                                                                Score 47; DB
Pred. No. 0.01
1; Mismatches
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Pred. No. 0.
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0.017;
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gonadoliberin I precursor - chicken

N;Alternate names: gonadotropin-releasing hormone I

C;Species: Gallus gallus (chicken)

C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999

C;Accession: I50644; S33507

A; Reference number: A; Accession: I50644

R;Dunn, I.C.; Chen, Y.; Hook, C.; Sharp, J. Mol. Endocrinol. 11, 19-29, 1993

P.J.; Sang, H.M

preprogonadotrophin-releasing

hormone-I

A; Title: Characterization of the

zation of the chicken I50644; MUID:94059355 from GB/EMBL/DDBJ

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A; Molecule type: DNA
A; Residues: 1-92 < DUZ>
A; Cross-references: EMBL: X69491;
C; Genetics:
A; Introns: 47/3; 79/3
C; Superfamily: gonadoliberin
                                      Ωy
                                                                                                                                                                                                                                                                                       A;Title: The complete genome sequence of Escherichia coli K-12. A;Reference number: A64720; MUID:97426617 A;Accession: E64728
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A; Residues: 1-98 <WHI>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;White, S.A.; Kasten, T.L.; Bond, C.T.; Adelman, J.P.; Fernald, Proc. Natl. Acad. Sci. U.S.A. 92, 8363-8367, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gonadotropin-releasing hormone - Cichlid (Haplochromis burtoni)
C; Species: Haplochromis burtoni
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                                                                                                                                                                                                    A;Cross-references: GB:AE000117; GB:U00096; NID:g1786250; PIDN:AAC73180.1; PID:g1786256
A;Experimental source: strain K-12, substrain MG1655
                                                                                                                                                                                                                                                                                                                                                           R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.; .A.; Rose, D.J.; Mau, B.; Shao, Y.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
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                                                                                                                                                                                                                                       A;Residues:
                                                                                                                                                                                                                                                      A; Molecule type: DNA
                                                                                                                                                                                                                                                                      A; Status: nucleic acid sequence not shown; translation not shown
                                                                                                                                                                                                                                                                                                                                           .A.; Rose, D.J.; Mau, B.; Sh
Science 277, 1453-1462, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                      yabN protein -
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                                                                                                                                                                                                                                                                                                                                                                                                             ;Species: Escherichia coli
;Date: 12-Sep-1997 #sequence_revision 17-Sep-1997 #text_change 08-Oct-1999
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Best Local
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Best Local :
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nes 7; Conserv
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                                        2 HWSYXLRPG 10
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HWRFFLRPG 187
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                                                                          Similarity
6; Conserv
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                                                                             Conservative
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                                                                                          72.4%;
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77.8%;
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                                                                                          Score 42; DB 2;
Pred. No. 4.2;
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Pred. No.
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RyBogerd, J.; Li, K.W.; Janssen Johnson, RyBogerd, J.; Li, K.W.; Janssen Johnson, 187, 127-134, Biochem. Biophys. Res. Commun. 187, 127-134, Biochem. Biophys. Res. Commun. 187, 127-134, A;Title: Two gonadotropin-releasing hormones animher: JC1242; MUID:92392313
A;Title: DNA Sequence of both chromosomes of the cholera pathogen Vibrio cholerae. A;Reference number: A82035; MUID:20406833 A;Accession: G82443
                                                                                                                                                           A; Experimental source: brain C; Superfamily: gonadoliberin
                                                                                                                                                                                                                                                                A; Reference number: JC1242; A; Accession: JC1242
                                                                                                                                                                                                                                                                                                                                                              A;Residues: 1.46,'S',48-59,'G',61-80 <BOG2>
A;Cross-references: EMBL:X78048; NID:g459431; PIDN:CAA54970.1;
A;Note: gonadoliberin I-associated protein form II, presumed to R;Bogerd, J.; Li, K.W.; Janssen-DommerDolt, C.; Goos, H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:X78049; NID:g459433; PIDN:CAA54971.1; A;Note: gonadollberin I-associated protein form I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Title: Isolation, characterization and expression of A;Reference number: S45600; MUID:94291651 A;Accession: S45602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Bogerd, J.; Zandbergen, T.; Andersson, Eur. J. Biochem. 222, 541-549, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Species: Clarias gariepinus (sharptooth catfish)
C;Date: 30-Sep-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C;Accession: $45602; $45601; JC1242; $42936; $42937
C;Accession: $45602; $45601; JC1242; $42936; $42937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N;Alternate names: gonadoliberin, catfish-type; gonadotropin-releasing | N;Contains: gonadoliberin I; gonadoliberin I-associated protein form I;
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A; Residues: 1-565 <HEI>
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Nature 406, 477-483, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Heidelberg, J.F.; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.; Gwinn, M.L.; Dodson, R. chardson, D.; Ermolaeva, M.D.; Vamathevan, J.; Bass, S.; Qin, H.; Dragoi, I.; Sellers l, R.R.; Mekalanos, J.J.; Venter, J.C.; Fraser, C.M.
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                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type:
A; Residues: 1-46,
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A; Residues: 1-80 <BOG1>
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A;Experimental source: serogroup O1; strain N16961; biotype El Tor
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hypothetical protein F1104.7 - Arabidopsis thaliana (fragment)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 26-Feb-1999 #sequence_revision 26-Feb-1999 #text_change 24-Mar-1999
C;Accession: T01937
R;Abu-Threideh, J.; Stoneking, T.; Langston, Y.; Trevaskis, E.
submitted to the EMBL Data Library, October 1998
A;Description: The sequence of A. thaliana F1104.
A;Reference number: 214466
A;Accession: T01937
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A;Reference number: Z16442
A;Accession: T08556
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A;Map position: 4
A;Introns: 52/2; 87/1; 146/1; 777/3
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A;Residues: 1-828 <BEV>
A;Cross-references: EMBL:AL050352; GSPDB:GN00062; ATSP:F27B13.190
A;Experimental source: cultivar Columbia; BAC clone F27B13
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 22-Oct-1999
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A; Note: F1104.7
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A;Molecule type: DNA
A;Residues: 1-508 <ABU>
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A;Experimental source: cultivar Columbia
                                            Query Match
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"---hes 6; Conservative
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Best Local Similarity 75.0
Matches 6; Conservative
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HWSYFQAPG 122
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PROGONADOLIBERIN I PRECURSOR (CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
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Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.
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THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
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                                                                            Score 51; DB Pred. No. 0.00 0; Mismatches
                                                                              0;
                                                                                                                                                                                                                                    PYRROLIDONE CARBOXYLIC SIMILARITY).
AMIDATION (G-16 PROVIDE
                                                                                                                                                                                                                                                                                                APPEARS TO BE ESSENTIAL ACTIVITY (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                         GNRH-ASSOCIATED PEPTIDE
                                                                                                                                                                                                                                                                                                                                                       PROGONADOLIBERIN GONADOLIBERIN I.
                                                                                                                                                                             505394DAA261A3F2 CRC64;
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Best Local
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                                                  01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GNRH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING FF
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SEQUENCE
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Endocrinology 134:1835-1844(1994).
-i- FUNCTION: STIMULATES THE SECRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hayes W.P., Wray S., Battey J.F.; "The frog gonadotropin-releasing hormone-I (GnRH-I) gene mammalian-like expression pattern and conserved domains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       XENLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the European Bioinformatics Institute. Thuse by non-profit institutions as long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GON1_XENLA P45656;
                                                                                                                                                                                      GON1_MOUSE
P13562;
                                                                                                                                                                                                                                    MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cleavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  or send
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata;
Amphibia; Batrachia; Anura; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1995
01-NOV-1995
                        GNRH1 OR GNRH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (LH-RH) (LULIBERIN I).
Xenopus laevis (African clawed frog).
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musculus
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                                                                                                                                                                                                                                                                                                                    HWSYGLRPG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  s requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
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(Mouse).
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Last annotation update)
RSOR (GONADOTROPIN-RELEASING
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Mesobatrachia; Pipoidea;
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Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-34 PROVIDE AMIDE GROUP).
6F4F36FBAE0D4284 CRC64;
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GONADOLIBERIN I.
GONADOTROPIN-RELEASING
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                                                                                                                                                                                                                                                                                                                                                                                                                       51; DB 1;
No. 0.0065;
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; Pipidae;
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Best Local
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O1-OCT-1996 (Rel. 34, Created)
O1-OCT-1996 (Rel. 34, Last sequence update)
O1-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH.I)
PROGONADOLIBERIN I PRECURSOR HORMONE I) (GONADOTROPIN RELEASING LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING LUTEINIZING HORMONE I).
SEQUENCE OF 24-33.
MEDLINE=72114303; P
Baba Y., Matsuo H.,
                                            Weesner G.
Submitted
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SIGNAL
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Mammalia; E
                                                                                                           Eukaryota;
                                                                                                                                                                                                                    GON1_PIG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            responsible for hypogonadism in the hpg mc Science 234:1366-1371(1986).
-i- FUNCTION: STIMULATES THE SECRETION OF THE SECRETION OF BOTH LUTEINIZING AND
                                                     TISSUE-HYPOTHALAMUS;
Weesner G.D., Matter
                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                      ACT_SITE
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"A deletion truncating the gonadotropin-releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mason A.J., Hayflick J.S., Zoeller R.T.,
                                                                                                                                                                                                                                                                            23
                                                                                                                                                                                                                                                                                                  2 HWSYXLRPG
                                                                                               scrofa (Pig).
aryota; Metazoa;
malia; Eutheria;
                                                                                                                                                                                                                                           6
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                                                                                                                                                                                                                                                                            HWSYGLRPG
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(MAY-1994)
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Eutheria;
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                                                                                                                                                                                                                      STANDARD;
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           PubMed=4946067;
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                                                                                               Chordata; Craniata; Vertebrata; Cetartiodactyla; Suina; Suidae;
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                                            Becker B.A.;
EMBL/GenBank/DDBJ
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GONADOLIBERIN I.
PROLACTIN RELEASE-INHIBITING
                                                                                                                                                                                                                                                                                                                                  Score 51; D
Pred. No. 0.
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                                            databases
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RESULT 7
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21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 07, Last sequence update)
01-APR-1988 (Rel. 07, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
PROGONADOLIBERIN I (ELEASING HORMONE I) (GONADOTROPIN RELEASING
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADORELIN); GNRH-ASSOCIATED
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PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
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                      Homo sapiens (Human)
Eukaryota; Metazoa;
                                                GNRH1 OR GNRH OR LHRH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "On the tryptophan residue in porcine LH and FSH-releasing hormone."; Biochem. Biophys. Res. Commun. 45:483-487(1971).
-i- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS: IT STIMULATES THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SYNTHESIS OF GONADOLIBERIN. MEDLINE=72065376; Pubmed=4942726;
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            Mammalia;
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PFAM; PF00446; GnRH; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Synthesis of the porcine LH- and phase method.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matsuo H., Arimura A., Nair R.M.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Biochem.
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2117544; PubMed=4946275;
             Eutheria;
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             Primates;
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                        Chordata;
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          Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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No. 0.0066;
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Seeburg P.H., Adelman J.P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of gonadotropin-releasing hormone and factor in human and rat.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-86094338; PubMed=2867548; Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.; "Isolation of the gene and hypothalamic cDNA for the common
                                                                                                                                           SIGNAL
                                                                                                                                                               Cleavage
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Characterization of cDNA releasing hormone.";
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Nucleic Acids Res.
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                                                                                                   ACT_SITE
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                                                                                                                        PEPTIDE
                                                                                                                                                                                              INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          "The chemical identity of the immunoreactive LHRH-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nature
                                                                                                              EPTIDE
                                                                                                                                                                                                                                                                                                                          s SWISS-PROT entry is copyright. It is produced ween the Swiss Institute of Bioinformatics and European Bioinformatics Institute. There are a
                                                                                                                                                                                                                                                                                                                                                                                                                   Chem. Biophys. Res. Commun. 109:1061-1071(1982).
FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT ST
THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
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                                                                                                             GNRH-ASSOCIATED
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MEDLINE=89384661; PubMed=2476669;
Bond C.T., Hayflick J.S., Seeburg P.H., Adelman
Bond C.T. and the seebourg P.H., Adelman
The rat gonadotropin-releasing hormone: SH locu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-86094338; PubMed-2867548; Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.; Adelman J.P., was and hypothalamic cDNA for the common precursor of gonadotropin-releasing hormone and prolactin release-inhibiting factor in human and rat.";
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P07490;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-APR-1988 (Rel. 07, Created)
01-APR-1988 (Rel. 07, Last sequence update)
01-OT-2000 (Rel. 40, Last annotation update)
01-OCT-2000 (Rel. 40, Last annotation update)
PROGONADOLLBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I) (GULTBERIN I); PROLACTIN RELEASE-INHIBITING I
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                                                                                                                                                                                                                                                                                                Science
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Mol. Endocrinol. 3:1257-1262(1989)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GNRH1 OR GNRH
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                                                                                                                                                                                                                                                                                                                                        Adelman J.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mammalla;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rattus norvegicus (Rat).
                                 L; S50870; AAB24572.1; -.
L; M12579; AAA41263.1; -.
L; M19579; AAA41264.1; -.
L; M15527; AAA42141.1; ALT_SEQ.
L; M15529; AAA42149.1; -.
L; M15528; -, NOT_ANNOTATED_CDS.
                                                                                                                                                                                                                                                                    ence 235:1514-1517(1987).
FUNCTION: STIMULATES THE
THE SECRETION OF BOTH LUT
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             B26173;
A48410;
                                                                                                                                                                                                                                                         HORMONES
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                                                                                                                                                                           SWISS-PROT entry is copyright. It is produced through a collable the Swiss Institute of Bioinformatics and the EMBL outsi suropean Bioinformatics Institute. There are no restrictions
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                                                                                                                                                                  non-profit institutions as long
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Eutheria;
                                                                                                                             email to license@isb-sib.ch).
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Rodentia;
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                                                                                                                                                                                                                                CENTRAL NERVOUS SYSTEM. TO THE GNRH FAMILY.
                                                                                                                                                                                                                                                                                                                                      Douglass
                                                                                                                                                                                                                                                                       LUTEINIZING
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                                                                                                                                                                                                                                                                                   SECRETION
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Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                       from
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                                                                                                                                                                                                                                                                                                                                     Herbert E.;
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                                                                                                                                                                                                                                                                    GONADOTROPINS; IT STIMULATES FOLLICLE-STIMULATING
                                                                                                                                                                  as its content
                                                                                                                                        . Usage by and for http://www.isb-sib
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lman J.P.;
locus: structure
                                                                                                                                                                                                                                                                                                                         strands
                                                                                                                                                                                                                                                                                                                                                                                                                             hypothalamic
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; Murinae; Rat
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for
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TISSUE-47079639; PubMed-8921350;
                                               PEPTIDE PEPTIDE
                                                                                                                                                                                                                                                                                                                          use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Scandentia; Tupaiidae; Tupaia.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HORMONES
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APPEARS TO BE ESSENTIAL
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                                                                                                 PROGONADOLIBERIN I.
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MOD_RES
MOD_RES
SEQUENCE
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01-FEB-1991 (Rel. 17, Created)
01-FEB-1991 (Rel. 17, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
GONADOLIBERIN I (GONADOTROPIN-RELEASING HORMONE
                 Eukaryota; Metazoa; Chordata; Craniata; Vert
Eukaryota; Metazoa; Chordata; Craniata; Vert
                                                   P37042; P20407;
01-FEB-1991 (Rel. 17, Created)
01-FIB-1994 (Rel. 29, Last sequence update)
01-JUN-1994 (Rel. 29, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTALINS: GONADOLIBERIN I (LHRH I)
CLUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
HORMONE I) (GNRH I) (LULLIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
                                                                                                                                               CHICK
                                                                                                                                                                                                                                                                                                                                                                                        Lovejoy D.A., Fischer W.H., Parker D.B., McRory J.E., Park
Lance V., Swanson P., Rivier J.E., Sherwood N.M.;
"Primary structure of two forms of gonadotropin-releasing
from brains of the American alligator (Alligator mississig
Regul. Pept. 33:105-116(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alligator mississippiensis (American alligator).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Archosauria; Crocodylidae; Alligatorinae; Alligator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALLMI
Archosauria; Aves; Gallus. [1]
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                                                                                                                                  GON1_CHICK
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7; Conser
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284B23D7286B45A3
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                     Phasianidae;
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                     Phasianinae;
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Best Local :
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TISSUB-HYPOTHALAMUS;
MEDLINE-82265778; PubMed-7050119;
King J.A., Millar R.P.;
King J.A., Millar R.P.;
"Structure of chicken hypothalamic luteinizing hormone-releasing "Structure of chicken hypothalamic luteinizing hormone-releasing";
                                                                                      _HAPBU
                                                                                                                                                                                                                                                                        PEPTIDE
PEPTIDE
MOD_RES
MOD_RES
SEQUENCE
 GON1_HAPBU STANDARD; PRT; P51918; O93387; 01-OCT-1996 (Rel. 34, Created) 30-MAY-2000 (Rel. 39, Last sequence up 30-MAY-2000 (Rel. 39, Last annotation GONADOLIBERIN I PRECURSOR (GONADOTROP)
                                                                                                                                                                                                                                                                                                                                           Signal.
SIGNAL
CHAIN
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or send a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a clear the Ewist institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hormone-I gene.";
J. Mol. Endocrinol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dunn I.C., Chen Y., Hook C., Shar
"Characterization of the chicken
hormone-I gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X69491; CAA49
PIR; S33507; S33507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=82265777; PubMed=7050118; King J.A., Millar R.P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=HYPOTHALAMUS;
King J.A., Millar R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-94059355; PubMed-7902095;
Dunn I.C., Chen Y., Hook C., Sharp P.J.,
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STRAIN-WHITE I
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hormone. I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Structure of chicken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         King J.A., Millar R.P.;
"Structure of avian hypothalamic gonadotrophin-releasing hormone.";
S. Afr. J. Sci. 78:124-125(1982).
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FUNCTION: STIMULATES THE SECRETION OF
SIMILARITY: BELONGS TO THE GNRH FAMILY
                                                                                                                                             HWSYGLOPG
                                                                                                                                                                                                                                                                                                                                                                                                                PRO; IPR002012; PF00446; GnRH;
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77.8%;
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    (GONADOTROPIN-RELEASING
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1; Mismatches
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GNRH-ASSOCIATED PEPTIDE I.
PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-34 PROVIDE AMIDE GROUP).
61AEB7EBAF508B6A CRC64;
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    HORMONE
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Matches 7
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Sherwood N.M.;
Sherwood N.M.;
"Primary structure of solitary form or (GnRH) in cichlid pituitary; three forms or and pumpkinseed fish.";
and pumpkinseed Fish.";
Regul. Pept. 57:43-53 (1995).
Regul. Pept. STIMULATES THE SECRETION OF THE
                                                                                                     CONFLICT
SEQUENCE
                                                                                                                                     PEPTIDE MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-95396797; PubMed-7667296; White S.A., Kasten T.L., Bond C.T., Adelman J.P., "Three gonadotropin releasing hormone genes in on novel roles for an ancient peptide."; Proc. Natl. Acad. Sci. U.S.A. 92:8363-8367(1995).
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GNRH1.
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MEDLINE=93372591; PubMed-7644702;
Powell J.F.F., Fischer W.H., Park M., CI
White S.A., Francis R.C., Fernald R.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei; Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidei;
                                                                                                                                                                                                                              PFAM; PF00446; GnRH;
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                                                                                                                                                                                                                                                                                                                                     the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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                                                                                                                                                                                                                                                                                                                                    European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                GONADAL AXIS.
                                                                                                                                                                                                                                                                                                                                           SWISS-PROT entry is copyright. It is produced through a collaboration en the Swiss Institute of Bioinformatics and the EMBL outstation
HWSYGLSPG
                    HWSYXLRPG
                                           l Similarity
7; Conserv
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                                                                                                                                                                                               Multigene
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                                                                                                                                                                                                        on pair of basic
                                                                                                                                                                                                                    PS00473;
                                                                                                                                                                                                                                                                                                                         non-profit
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f gonadotropin-releasing
istinct origin for GnRH-c
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                                                                                                                                                                                                       residues; Hormone; Amidation; Hypothalamus;
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                                            0;
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                                           Score 45; DB Pred. No. 0.08 0; Mismatches
                                                                                                   PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-33 PROVIDE AMIDE GROUP).
ENGRRYFK. -> KMUTGHSENEFE (IN REF. 1).
E57DBA83333278D7 CRC64;
                                                                                                                                                GNRH-ASSOCIATED PEPTIDE
                                                                                                                                                             GONADOLIBERIN
                                                                                                                                                                       PROGONADOLIBERIN I.
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                                                                                                                                                                                                                                                                                                   (See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ms of GnRH in brain of cichlid
                                                       DB 1;
0.085;
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GON1_SPAAU

STANDARD;

PRT;

95 AA.

p51919;

01-OCT-1996 (Rel. 34, Created)

15-DEC-1996 (Rel. 34, Last sequence update)

15-DEC-1998 (Rel. 37, Last annotation update)

GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
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GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
(LH-RH I) (LULIBERIN I).
Pagrus maior 'roo'
                              Eukaryota; Metazoa; Chordata; Craniata;
Actinopterygii; Neopterygii; Teleostei;
Acanthomorpha; Acanthopterygii; Percomo;
                                                                                                                   (LH-RH I) (LULIBERIN I) (SBGNRH). Sparus aurata (Gilthead sea bream).
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15-JUL-1998 (Rel.
15-DEC-1998 (Rel.
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7; Conserv
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he EMBL/GenBank/DDBJ
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Craniata; Vertebra
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GNRH-ASSOCIATED PEPTIDE
PYRROLIDONE CARBOXYLIC A
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PROGONADOLIBERIN I.
                                                         Craniata; Vertebrata; Euteleostomi; Teleostei; Euteleostei; Neoteleostei
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                                    Perciformes;
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databases
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O54713
SEQUENCE FROM N.A.
STRAINETLEY WHITE; TISSUE-HYPO
MEDLINE-97462693; PubMed-9322920;
Jimenez-Linan M., Rubin B.S., Kin
"Examination of guinea pig lutein
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Powell J.F.F., Zohar Y., Elizur A., Park M., Fischer W.H.,
Craig A.G., Rivier J.E., Lovejoy D.A., Sherwood N.M.;
"Three forms of gonadotropin-releasing hormone characterized
brains of one species.";
Proc. Natl. Acad. Sci. U.S.A. 91:12081-12085(1994).
Proc. Natl. Acad. Sci. U.S.A. 91:12081-0085(1994).
-i- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
-i- MASS SPECTROMETRY: MW-1113.6; METHOD-MALDI; RANGE-26-35.
-i- SIMILARITY: BELONGS TO THE GNRH FAMILY.
                                                                                                                                  Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-95268499; PubMed-7749463; Gothilf Y., Elizur A., Chow M., Chen T.T., Zohar Y.; "Molecular cloning and characterization of a novel gonadotropin-releasing hormone from the gilthead seabream (Sparus aurata)."; Mol. Mar. Biol. Biotechnol. 4:27-35(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation between Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                 GON1_CAVPO
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Cleavage on pair of basic
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PFAM; PF00446; GnRH; 1.
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SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-BRAIN;
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GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
PYRROLIDONE CARBOXYLIC ACID.
AMIDATION (G-36 PROVIDE AMIDE GROUP).
49313FD6FD6B87DA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 45; DB 1; Pred. No. 0.085;
                                                                                                                                                          Craniata; Vertebrata;
                       King
                                                                                                                                       Hystricognathi;
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                                                                                                                                                                                                                                                                                                                                                                                               92
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hormone-releasing
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Query Match
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                                                                                                                                                                                                                                                                                                                  EMBL;
                                                                                                                                                                                                                                                                                                                                      or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                       use
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                                                                          2 HWSYXLRPG 10
                                                                                                                                                                                                                                                                                                                                                                              s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY:
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                                                      YWSYGVRPG
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                                                                                                                                                                                                                                                                                                                                                                     non-profit
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            2001,
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            11:01:19
                                                                                                          Score 42; DB 1
Pred. No. 0.29;
                                                                                                                                                  AMIDATION (G-34 PROVIDE AMIDE GROUP) (BY SIMILARITY).
ACF74613F456D663 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SECRETION
                                                                                                                                                                                     SIMILARITY)
                                                                                                                                                                                            ACTIVITY (BY SIMILARITY)
PYRROLIDONE CARBOXYLIC P
                                                                                                                                                                                                                GNRH-ASSOCIATED PEPTIDE I.
APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
                                                                                                                                                                                                                             GNRH-ASSOCIATED PEPTIDE
                                                                                                                                                                                                                                        GONADOLIBERIN
                                                                                                                                                                                                                                                  PROGONADOLIBERIN
                                                                                               Mismatches
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AND FOLLICLE-STIMU
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq_documentation_block:
; Sequence 47, Application US/08160882
; GENERAL_INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query length: 2088
Database: Pending_Patents_AA:*
Database sequences: 957798
Database length: 153513742
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Query: US-09-306-689-12
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-Q=/cg12_1/USPTO_spool/US09306689/runat_02032001_102826_9576/app_query.fasta_1.2389

-Q=/cgn2_1/USPTO_spool/US09306689/runat_02032001_102826_9576/app_query.fasta_1.2389

-DB=Pending_Patents_AA.QBMT=fastan -SUFFIX=rap -GAPOP=12.000

-GAPEXT=4.000 -MINMATCH=0.100 -LOOPCL=0.000 -LOOPEXT=-0.000

-QGAPEXT=4.000 -GAPEXY=-0.050 -XAAPOP=10.000 -XAAPEXY=-0.500

-GAPEXT=6.000 -GAPEXY=7.000 -XAAPOP=10.000 -YAAPEXY=0.500

-DELOP=6.000 -DELEXT=7.000 -START=1 -MATRIX=blosum62

-TRANS=human40.cdi -LIST=45 -DOCALIGN=200 -THR_SCORE=PCt

-THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL -OUTFMT=pfs

-NORM-ext -MINLEN=0 -MAXLEN=200000000

USER=US09306689_@CGN1_1_839 -NCPU=6 -ICPU=3 -LONGLOG -NO_XLPXY
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                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION NUMBER: US/08/160,882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Russel-Jones, Greg
APPLICANT: Stewart, Andrew G.
APPLICANT: Tson1s, Con G.
TITLE OF INVENTION: TraT/Neur,
NUMBER OF SEQUENCES: 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mar 2, 2001 10:44 AM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Foley & Lardner STREET: 3000 K Street, N.W., Suite 500 CITY: Washington, D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Results were produced by the GenCore Copyright (c) 1993-2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                        RY: USA
20007-5109
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TraT/Neuropeptide-Y Fusion Proteins 55
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49
1706
411
seq_documentation_block:
    Sequence 27, Application US/09506078
    GENERAL INFORMATION:
    APPLICANT: Pfizer Products Inc
    TITLE OF INVENTION: FUSION PROTEINS COMPRISING CARRIERS
    TITLE OF INVENTION: DUAL IMMUNE RESPONSE
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alignment_block:
US-09-306-689-12 x US-08-160-882-47
seq_name: /cgn2_6/ptodata/2/paa/US095_COMB.pep:US-09-506-078-27
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APPLICATION NUMBER: AU PJ 5979

FILING DATE: 25-AUG-1989

ATTORNEY/AGENT INFORMATION:

NAME: BENT, Stephen A.

REGISTRATION NUMBER: 29,768

REFERENCE/DOCKET NUMBER: 60042/1

TELEPHONE: (202)672-5300

TELEPHONE: (202)672-5300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (202)672-5399
TELEX: 904136
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/690,983
FILING DATE: 25-JUN-1991
                                                                                                  FILING DATE: 25-JUN-
PRIOR APPLICATION DATA:
                                                                    322 GGT 324
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: PCT//
FILING DATE: 24-AUG-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH:
                                                                                                                                                                                                                                                                                                           euArgProGly......GluHisTrpSerTyrGlyLeuArgProGly 42
                                                                                                                                                                                                                                                                                                                                                                                pSerTyrGlyLeuArgProGly......GluHisTrpSerTyrGlyL
                                                                                                                                                                                                                                       Quality:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ratio:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    84 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           368.00
4.779
76.238
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Identity: 68.317
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
                                                                                                        81
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FILE REFERENCE: PC10202A CURRENT FILING DATE: 2000-02-16 EARLIER APPLICATION NUMBER: N/A EARLIER APPLICATION NUMBER: N/A EARLIER FILING DATE: 1999-02-17 NUMBER OF SEQ ID NOS: 46 SOFTWARE: Patentin Ver. 2.1 SEQ ID NO 27 LENGTH: 442 TYPE: PRT ORGANISM: Artificial Sequence FEATURE: OTHER INFORMATION: Description of Artificial Sequenc OTHER INFORMATION: 4GnRH-tmgD-4GnRH encoded by pQE-6-09-506-078-27	-GnRH:gD:	GnRH
ignment_scores: Quality: 304.50 Ratio: 1.208 ercent Similarity: 39.748 Percent Identity: 22.082	34 25 28 18	
ignment_block: s-09-306-689-12 x US-09-506-078-27		
seg 1/1 to: US-09-506-078-27 from: 1 to: 4	2	
178 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTG ::::	ATTGGAG 227 isTrpSe 32	
228 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCC	GCCTGC 277 1yLeuA 46	
278 GCCCTGGCAGCCGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT	GGTGGA 327 ::: Glyser 59	
328 TCTAGCTTCCCAAAAACTGGGGCAAAAAAATTATCCTCTATATTCC	⊢ ⊢	
376CAAAATTACCAATATGATACTGAACAAGGTA ::: ::: ::: 75 oProAlaTyrProMetProArgTyrAsnTyrThrGluArgTrpb	r G	
410 GTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGG	GGGATT 450 ::: Proval 107	
451 GAGGTACAAAGAGAAGAACGCAATAATATTGCAACAGCTCAAACCAGTTT :: 108 Gluvalarg	CAGTTT 500	
501 AGGCACGATTCAAACCGCTATTGGCTTAACTGAGCGTGGCATTGTGTGTG	FIGITAT 550 :::::: euIleA 125	
551 CCGCTCCACAAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAI :: ::: ::: 125 laAspProGlnVal	CAAGCA 600 :::::: ArgThr 132	
601 TTAGGTTCTGCCGAAAGCATTGTACAAAATGCAAAATAAAGCCAAAACTGT ::: :::! 	NAACTGT 650 ::::: hrValIl 149	
STATTATCTGGCATTCAATCTATTTTAGGCTCAGTATTTGGCTGGAATG	NTGGATT 700 ::: MetGluT 166	
W01 TAGATGAGGCCTTACAGAATAACAGCAACCAACAACATGCTCTTGCTAAA	PARAGCT 750	

1593 349	AGCAAGTTGATGATCTTATCGCAAAAGGTAACGGCAAAATTACCCAAGAT::::: rgGluGlyAsnGlyGlyProProGlyPro	1544 340
	TGAGAAAATCGAAGAAATCATCGGTCAAAATGGCGAGCGGATCACCTCAA ::::: ::	1494 323
1493 323	TATAAAAGCAACTAAA	1477 307
1476 306	TCCGAGAGGCTGATTTTGCTAAAGAAGTGCCTAAT :: :: :: :: :: ::	1442 290
1441 290	CACGAATAGCAAAAAAGAGAAAGTGACCATTCAAAACTGGT :: : :: : : : :: : : : :	1401 273
1400 273	GCTGCTGCAGCCGATTTAACATTTGAAAAAGTTAAACATAATCTTGTCAT	1351 257
60	::: ::: ::: AlaAlaArgGlyTyrThrPheGlyAlaC	247
246 1350	CGGTTACTGCAATTAATACCGCATTGGCCGCTATTGCTGGTGG	246 1301
1300	rtttattagcagaatatcagcggggaacagggacta	1251
246	::	234
1250	AAAAGTTTAGAGAGTTATGCCGAACGCTTTAAAAAATTAGGCTATGACG	1201
233		233
1200	CGATTAGCCCATTAGCATTTGCCGGTATTGCCGATAAATTTAATCATGC	1151
233		233
1150	ATCTTCAACTGGGCCTGTGGCTGCTTTAATTGCTTCTACTGTT	1101
ω	ValAlaTyrThrAspPheMetVal	225
_	ACCAAAGCCGTTTCTTACATTTTAGCCCAACGTGTTGCAGCAGGTT	1051
1050	AAAAAGTGGGTGCGGGTTTTC :: ::: ::: ::: rqLeuValGluGlyGlnTyr <i>t</i>	1001
210	LeuileMetAlaAlaProAl	203
1000	TACTTGCAGATAAAAATGCTTCAACAGCTA	951
202		202
950	GGACTTGATAAAGCTGGCCTTGGTTTAGATGTTATCTCAGGGCTATTATC	901
202		202
900	AAAATATCAAAGGCTTAGGGACTTTAGGAGACAAACTCAAAAATATCGGT	851
202	OThrAspAspGluLeuGly	196
850	CTTGACGAATTTGGTGAGCAAATTAGTCAATTTGGTTCAAAACTAC	801
196	ProProPheTrpAspSerPheLeuAlaGlyPheAlaTyrPr	183
800	GCTTGGAGCTAACAAATTCATTAATTGAAAATATTGCTAATTCAGTAAA	751
182	yrThrGluCysGluProArgLysHisPheGlyTyrCysArgTyrArgThr	166

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alignment_block:
                                                                                                                                                                       alignment_scores:
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                                  US-09-306-689-12 x US-60-120-454-27
                                                                                                  Ratio:
Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/60/120,454
CURRENT FILING DATE: 1999-02-17
EARLIER APPLICATION NUMBER: N/A
EARLIER FILING DATE: 1999-02-17
NUMBER OF SEQ ID NOS: 46
SOFTWARE: Patentin Ver. 2.0 - beta
SEQ ID NO 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                             OTHER INFORMATION:
OTHER INFORMATION:
-60-120-454-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 27, Application US/60120454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Campos, Manuel
APPLICANT: Yule, Terecita D
APPLICANT: Martinot, Serge
APPLICANT: Durtschi, Becky A
TITLE OF INVENTION: FUSION PROTEINS COMPRISING
TITLE OF INVENTION: DUAL IMMUNE RESPONSE
FILE REFERENCE: PC10202
                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                     ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 442
TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1861 CATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCAAGATTGGAGCTA 1910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1911
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1644 TGTGACAAACAGCTTAGATAAGTTAATCTCATCTGTAAGTGCATTTACCT 1693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1594 GAGCTATCAAAAGTTGTTGATAACTATGAATTGCTCAAACATAGCAAAAA 1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         363
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aThrProAlaArgAlaProGluHisTrpSerTyrGlyLeuArgProGly. 412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               lyAlaGluGlyGluProLysProGlyProSerProAspAlaAspArgPro 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HisTrpSerTyrGlyLeuArgProGly......GluHisTrpSerTy 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GluGlyTrpProSerLeuGluAlaIleThrHisProProProAlaProAl 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGTCTAATGATTCGAGAAATGTATTAGTGGCTCCAACTTCAATGTTGGAT 1743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .....GlyAspGlyGluSerGlnThrProGluAlaAsnGlyG 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Glu.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .....GCTAGGGGATCTCAGCATTGGAGCTACGGCCTGGCCCCTGGCA 1810
                                                                                                                                                 Quality:
                                                                                                304.50
1.208
39.748
                                                                                                                                                                                                                                                                Description of Artificial Sequence: 4GnRH-tmgD-4GnRH encoded by pQE-GnRH:gD:GnRH
                                                                                                Gaps:
Percent Identity:
                                                                                                                                            Length:
                                                                                                634
25
22.082
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                                            1001 AAAAAGTGGGTGCGGGTTTTGAATTGGCAAACCAAGTTGTTGGTAATATT 1050
210 rgLeuValGluGlyGlnTyrArgArgAlaLeuTyrIleAspGly.....
                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                      202
                                                                                                                                                                                                                                                                                                                                   851 AAAATATCAAAGGCTTAGGGACTTTAGGAGACAAACTCAAAAATATCGGT 900
                                                                                                                                                                                                                                                                                                                                                                          196 oThrAspAspGluLeuGly.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                183
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  651 ATTATCTGGCATTCAATCTATTTTAGGCTCAGTATTGGCTGGAATGGATT 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       133
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          551 CCGCTCCACAAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAGCA 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     501 AGGCACGATTCAAACCGCTATTGGCTTAACTGAGCGTGGCATTGTGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          108 GluValArg.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  328 TCTAGCTTCCCAAAAACTGGGGCCAAAAAAATTATCCTCTATATTCCC.. 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          228 CTACGGCCTGCGTCCGGGTGGCCTCTAGCCAGCATTGGAGCTACGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          751 GGCTTGGAGCTAACAAATTCATTAATTGAAAATATTGCTAATTCAGTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   451 GAGGTACAAAGAGAAGAACGCAATAATATTGCAACAGCTCAAACCAGTTT 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            178 CAGCATTGGAGCTACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       91
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                                                                                                                                          GGGCGCAACAGCTGCACTTGTACTTGCAGATAAAAATGCTTCAACAGCTA 1000
                                                                                                                                                                                                                                        GGACTTGATAAAGCTGGCCTTGGTTTAGATGTTATCTCAGGGCTATTATC 950
                                                                                                                                                                                                                                                                                                                                                                                                             AACACTTGACGAATTTGGTGAGCAAATTAGTCAATTTGGTTCAAAACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hrThrGlyProIleProSerProPheAlaAspGlyArgGluGlnProVal 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rgProGly......GluHisTrpSerTyrGlyLeuArgProGlySer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pro...ProPheTrpAspSerPheLeuAlaGlyPheAla.....TyrPr 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YrThrGluCysGluProArgLysHisPheGlyTyrCysArgTyrArgThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TAGATGAGGCCTTACAGAATAACAGCAACCAACATGCTCTTGCTAAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 eTrpTyrLysIleGluSerGlyCysAlaArgProLeuTyrTyrMetGluT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTAGGTTCTGCCGAAAGCATTGTACAAAATGCAAATAAAGCCAAAACTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .....TyrAlaThrSerAlaAlaAlaCysAspMetLeuAlaLeuIleA 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTTTACAGGATTTAGTCAAAGCG......GCCGAAGAGTTGGGGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               oProAlaTyrProMetProArgTyrAsnTyr...ThrGluArgTrpHisT 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        {\tt MetSerLeuPro...ThrProAlaProArgValThrValTyrValAspPr}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuTrpGluAlaValArgArgHisAlaArgAlaTyrAsnAlaThrValIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             laAspProGlnVal.....GlyArgThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rTyrGlyLeuArgProGly......GluHisTrpSerTyrGlyLeuA
                                                                                           .....AlaAlaProAlaA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ......CAAAATTACCAATATGATACTGAACAAGGTAATG 409
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224

210

202

202

202 85C 800 182 750 149 650 132 110

450

75

327 59

46 277 32 227

413		1 3
1860	GCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAG	1811
1810 412	GCTAGGGGATCTCAGCATTGGAGCTACGGCCTGCGCCCTGGCA ::: :::	1768 396
1767 396	CAAAGTTTATCTTCTCTCCAATTT	17 44 380
1743 379	GGCTCCAACTTCAATGTTGGAT ::: SerProAspAlaAspArgPro	1694 363
1693 363	GTGACAAACAGCTTAGATAAGTTAATCTCATCTGTAAGTGCATTTACCT	1644 351
1643 350	GAGCTATCAAAAGTTGTTGATAACTATGAATTGCTCAAACATAGCAAAAA 1	350
1593 349		1544 340
1543 340	GGCGAGCGGATCACCTCAA ::: :::: SluAspGlyAlaAlaGlyA	1494 323
1493 323		1477 307
1476 306	TCCGAGAGGCTGATTTTGCTAAAGAAGTGCCTAAT	1442 290
1441 290		1401 273
1400 273	CGATTTAACATTTGAAAAAGTTAAACATAATCTTGTCAT 	1351 257
1350 256	TGCAATTAATACCGCATTGGCCGCTATTGCTGGTGGTGTGTCT ::: :: :::	1301 247
246	2	246
1300	GCAT	1251
1250 246	AAAAGTTTAGAGAGTTATGCCGAACGCTTTAAAAAATTAGGCTATGACGG 1	1201 234
233		233
1200	CCCATTAGCATTTGCCGGTATTGCCGATAAATTTAATCATGCA	1151
233		233
1150		1101
233	ALCAMAGECGITICITETIACATITITAGECCAAGGIGITGEAGGAGGITIT 1	225

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alignment_block:
US-09-306-689-12 x US-09-019-010-4
                                                                                                                                                                                                                                                                                                                                                                              ; MOLECULE TYPE: US-09-019-010-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seq_name: /cgn2_6/ptodata/2/paa/US090_COMB.pep:US-09-019-010-4
                                                                                                                                                                                                                                                                                                                 alignment_scores:
                                                                                                                                                                                                                                      Quality: 290.00
Ratio: 5.918
Percent Similarity: 100.000
                                                                                                                                 Align seg 1/1 to: US-09-019-010-4 from: 1 to: 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTY: USA
ZIP: 94025
ZIP: 94025
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC COMPATION:
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/09/019,010
FILING DATE: 05-FEB-1998
CLASSIFICATION DATA:
APPLICATION NUMBER: US 60/036,883
FILING DATE: 05-FEB-1997
ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
REGISTRATION NUMBER: 38,548
REGISTRATION NUMBER: 38,548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Application US/09019010 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (650) 325-7823
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1961 GC 1962
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LENGTH: 49 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 325-7812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
ADDRESSEE: ROBINS & ASSOCIATES
STREET: 90 MIDDLEFIELD ROAD, SUITE 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: HARLAND, RICHARD
APPLICANT: MANNS, JOHN G.
APPLICANT: ACRES, STEPHEN D.
TITLE OF INVENTION: IMMUNIZATION AGAINST ENDOGENOUS
TITLE OF INVENTION: MOLECULES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                 25 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG
7.5 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 124
                                     1 GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe 17
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STATE: CA
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Percent Identity: 100.000
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APPLICANT: Jack G. Manns
APPLICANT: Stephen D. Acres
APPLICANT: Stephen D. Acres
APPLICANT: Stephen D. Acres
TITLE OF INVENTION. METHODS OF RAISING ANIMALS FOR MEAT PRODUCTION
FILE REFERENCE: 9001-0048
CURRENT APPLICATION NUMBER: US/09/305,924A
CURRENT FILING DATE: 1999-05-05
EARLIER APPLICATION NUMBER: US 60/084,217
EARLIER FILING DATE: 1998-05-05
NUMBER OF SEQ ID NOS: 14
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 11
LENGTH: 49
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Description of Artificial Sequence: GnRH-2, OTHER INFORMATION: 1B US-09-249-447A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              alignment_block:
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                                                                                                                                                                                                                                                                                                                                                        seq_documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                             seq_name: /cgn2_6/ptodata/2/paa/US093_COMB.pep:US-09-305-924-11
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                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                Sequence 11, Application US/09305924A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE:
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/249,447A CURRENT FILING DATE: 1999-02-12 PRIOR APPLICATION NUMBER: US 60/075,637 PRIOR FILING DATE: 1998-02-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: PASSIVE IMMUNIZATION AS TITLE OF INVENTION: DEPENDENT DISORDERS FILE REFERENCE: 9001-0045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 49
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   125
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5.918
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s: 7
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OTHER INFORMATION: Description of Artificial Sequence: Sequence; OTHER INFORMATION: defines a GNRH multimer US-09-306-689-11
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; Sequence 11, Application US/09306689B
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq_name: /cgn2_6/ptodata/2/paa/US093_COMB.pep:US-09-306-689-11
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US-09-305-924-11
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NUMBER OF SEQ ID NOS: 14
SOFTWARE: PATENTIN VEY: 2.0
SEQ ID NO 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: RObbins, Sarah C.
TITLE OF INVENTION: METHODS FOR SUPPRESSING REPRODUCTIVE BEHAVIOR IN
TITLE OF INVENTION: ANIMALS
FILE REFERENCE: 9001-0047
CURRENT FAPPLICATION NUMBER: US/09/306,689B
CURRENT FILLING DATE: 1999-05-06
EARLIER APPLICATION NUMBER: US 60/088,024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 49
                                      125 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 171
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                                                                                               75 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 124
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34 rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly
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5.918
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5.918
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seq_name: /cgn2_6/ptodata/2/paa/US093_COMB.pep:US-09-383-912-4

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alignment_block:
US-09-306-689-12 x US-09-383-912-4
                                                                           seq_documentation_block:
                                                                                                                seq_name: /cgn2_6/ptodata/2/paa/US086_COMB.pep:US-08-669-785-2
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Ratio: 5.918
Percent Similarity: 100.000
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                    Sequence 2, Applicati
GENERAL INFORMATION:
APPLICANT: Betsou
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SEQUENCE CHARACTERISTICS:
LENGTH: 49 amin
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TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: GnRH-LEUKOTOXIN CHIMERAS NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Patentin Rel CURRENT APPLICATION DATA:
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APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P
    APPLICANT:
                                                                                                                                                                                                125 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 171
                                                                                                                                                           34
                                                                                                                                                                                                                                         17
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CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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ZIP: 94301
                                                                                                                                                                                                                                                                                                                  1 GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER:
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)GY: linear
                                                       Application US/08669785
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Betsou, Fotini
Sebo, Peter
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Percent Identity:
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; TOPOLOGY: li
; MOLECULE TYPE:
US-08-669-785-2
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Quality:
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TITLE OF INVENTION: I
TITLE OF INVENTION: I
TITLE OF INVENTION: I
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/669,785
FILING DATE: 27-JUN-1996
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REGISTRATION NUMBER: 25,146
REFERENCE/DOCKET NUMBER: 02:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                349 AlaTyrGlyVal...AlaGlyLysSerLeuPheAspAspGlyLeuGlyAl 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION: NAME: Meyers, Kenneth J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                      417 euGlyGluValSerAspMet......AlaAlaVal 426
                                                                                  500 TAGGCACGATTCAAACCGCTATTGGCTTAACTGAGCGTGGCATTGTGTTA 549
                                                                                                                             400 nAspSerGlyTyrAspSerLeuAspGlyValGlySerArgSerPheSerL
                                                                                                                                                                                                                                                               415 CAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGATTGAGGTACAAAGAGA 464
                                                                                                                                                                                                                                                                                                                                                                                                                                       265 AGCTACGGCCTGCGCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCT 314
                                                                                                                                                                      465 AGAACGC......AATAATATTGCAACAGCTCAAACCAGTT 499
                                                                                                                                                                                                                   390 Arg.....ArgProSerLeuGly...AlaValGluArgGl
                                                                                                                                                                                                                                                                                                        365 TCTATATTCCCCAAAATTACCAATATGATACTGAACAAGGTAATGGTTTA 414
                                                                                                                                                                                                                                                                                                                                                                                            364 aAlaProGlyValProSerGlyArgSerLysPheSerProAspValLeuG 381
550 TCCGCTCCACAAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAGC 599
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STRANDEDNESS: si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
ZIP: 20005-3315
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0.763
54.297
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Cyclase-Haemolysin(AC-Hly), Their Application To
The Treatment Or To The Prevention Of Bordetella
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02356.0072-00000
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21
22.266
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328 TCTAGCTTCCCAAAAACTGGGGCAAAAAAATTATCCTCTATATT...CC

374

MetSerLeuPro...ThrProAlaProArgValThrValTyrValAspPr 75

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seq_documentation_block:
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US-09-306-689-12 x US-60-120-454-23
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                                                                                                           seq_name: /cgn2_6/ptodata/2/paa/US086_COMB.pep:US-08-669-785-4
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               Sequence 4, Application US/08669785
GENERAL INFORMATION:
APPLICANT: Betsou, Fotini
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: FUSION PROTEINS COMPRISING CARRIERS THAT CAN INDUCE TITLE OF INVENTION: DUAL IMMUNE RESPONSE FILE REFERENCE: PC10202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EARLIER APPLICATION NUMBER: N/A EARLIER FILING DATE: 1999-02-17 NUMBER OF SEQ ID NOS: 46 SOFTWARE: Patentin Ver. 2.0 - bo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/60/120,454
CURRENT FILING DATE: 1999-02-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Martinod, Serge
APPLICANT: Durtschi, Becky A
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ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Descript OTHER INFORMATION: encoded
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                                                                                                                                                                                                                                                                                                                                                                               375 CCAAAATTAC 384
APPLICANT:
                                                                                                                                                                                                                                                                                                                                             278 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGA 327
                                                                                                                                                                                                                                60
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          19 GluHisTrpSerTyrGlyLeuArgProGly......GluHisTrpSe
                                                                                                                                                    75
                                                                                                                                                                                                                              MetSerLeuPro...ThrProAlaProArgValThrValTyrValAspPr
                                                                                                                                                  oProAlaTyr 78
                                                                                                                                                                                      CCAAAATTAC 384
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Quality:
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Sebo, Peter
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4.088
72.857
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Gaps: 5
Percent Identity: 58.571
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; MOLECULE TYPE: US-08-669-785-4
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Quality:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (202) 408-4400 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Guiso, NITITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Meyers, Kenneth J.
REGISTRATION NUMBER: 25,146
REFERENCE/DOCKET NUMBER: 022
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 408-4000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Patentin Relea
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/0
FILING DATE: 27-JUN-1996
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MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                             350 CAAAAAAATTATCCTCTATATTCCCCAAAATTACCAATATGATACTGAA 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  380 LeuGluThrValProAlaSer.ProGlyLeuArgArgProSerLeuGlyA 396
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ATTORNEY/AGENT INFORMATION:
                                                                                  550 TCCGCTCCACAAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAGC 599
                                                                                                                                                                       500 TAGGCACGATTCAAACCGCTATTGGCTTAACTGAGCGTGGCATTGTGTTA 549
                                                                                                                                                                                                                                                                 450 TGAGGTACAAAGAGAAGAACGCAATAATATTGCAACAGCTCAAACCAGTT 499
                                                                                                                                                                                                                                                                                                             408 AspGlyValGlySerArgSerPhe.....
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600 ATTAGGTTCTGCCGAAAGCATTGTACAAAATGCAAATAAA......GCCA 643
                                         427 GluAlaAlaGluLeuGluMetThrArgGlnValLeuHisAlaGlyAlaAr 443
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STRANDEDNESS: si
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20005-3315
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52.419
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Cyclase-Haemolysin(AC-Hly), Their Application To
The Treatment Or To The Prevention Of Bordetella
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Gaps:
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11
23.387
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CURRENT APPLICATION NUMBER: PCT/US00/22121 CURRENT FILING DATE: 2000-08-14 PRIOR APPLICATION NUMBER: 09/026,276 PRIOR FILING DATE: 1998-02-19

FILE REFERENCE:

TITLE OF INVENTION: HEAT SHOCK FUSION-BASED VACCINE SYSTEM

IGN-2004WO

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1060
                                                               alignment_scores:
                                                                                                                              ; ORGANISM: Porcine US-09-026-276-35
                                                                                                                                                                   ; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: PatentIn Ver. 2
; SEQ ID NO 35
; LENGTH: 40
; TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     seq_documentation_block:
; Sequence 35, Application US/09026276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                seq_name: /cgn2_6/ptodata/2/paa/US090_COMB.pep:US-09-026-276-35
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US-09-306-689-12 x PCT-US00-22121-35
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OTHER INFORMATION: Descript
OTHER INFORMATION: antigen
PCT-US00-22121-35
  Percent Similarity:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                           APPLICANT: Kenten, John H
APPLICANT: Tramontano, Alfonso
APPLICANT: Pilon, Aprile L
APPLICANT: Lohnas, Gerald L
APPLICANT: Roberts, Steven F
TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
FILE REFERENCE: U.S. Patent Application No. 09\026,276
CURRENT APPLICATION NUMBER: US/09/026,276
CURRENT FILING DATE: 1998-02-19
NUMBER OF SEQ ID NOS: 35
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PRIOR APPLICATION NUMBER: US (
PRIOR FILING DATE: 1999-08-13
NUMBER OF SEQ ID NOS: 35
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TYPE: PRT
ORGANISM: Artificial Sequence
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Ratio:
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202.50
5.192
63.934
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5.192
63.934
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Percent Identity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Identity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of Artificial Sequence: polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   from: 1
                                         Length:
                        Gaps:
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63.934

40

10 74

63.934

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GENERAL INFORMATION:

APPLICANT: Kenten, John H.

APPLICANT: Roberts, Steven

APPLICANT: Lohnas, Gerald

TITLE OF INVENTION: HEAT SHOCK FUSION-BASED VACCINE SYSTEM
FILE REFERENCE: CIP OF IGN-9601

CURRENT APPLICATION NUMBER: US/09/374,721A

CURRENT FILING DATE: 1999-08-13

PRIOR APPLICATION NUMBER: 09/026,276

PRIOR APPLICATION NUMBER: 09/026,276

PRIOR APPLICATION NUMBER: 09/026,276

PRIOR APPLICATION NUMBER: 09/026,276

PRIOR FILING DATE: 1998-02-19

NUMBER OF ESO ID NOS: 35

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    alignment_block:
US-09-306-689-12 x US-09-026-276-35
                                                                                                                                                                                                                                                                                                                                                                              alignment_block:
US-09-306-689-12 x US-09-374-721A-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             alignment_scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        : LENGTH: 40
: TYPE: PRT
: ORGANISM: Artificial Sequence
: FEATURE:
: OTHER INFORMATION: Description of Artificial Sequence: polypeptide
: OTHER INFORMATION: antigen
US-09-374-721A-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq_name: /cgn2_6/ptodata/2/paa/US093_COMB.pep:US-09-374-721A-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      seq_documentation_block:
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                                                                                                                                                                                                                                                                                                                                         Align seg 1/1 to: US-09-374-721A-35 from: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 35, Application US/09374721A
175 TCTCAGCATTGGAGCTACGGCCTGCGCCCTGGC 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      175 TCTCAGCATTGGAGCTACGGCCTGGCCCTGGC 207
                                                                                                                              125 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGA 174
                                                                                                                                                                                                                                                      75 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11 ......GlnHisTrpSerTyrGlyLeuA 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31 ...GlnHisTrpSerTyrGlyLeuArgProGly 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11 .....GlnHisTrpSerTyrGlyLeuA 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 75 CTACGGCCTGCGTCCGGGTGGCCTCTAGCCAGCATTGGAGCTACGGCCTGC 124
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63.934
                                                                                                                                                                                                                                                                                                                                                                                                                                         Length: 61
Gaps: 3
Percent Identity: 63.934
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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58
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/SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1982.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1983.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1984.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1985.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1985.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1987.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1988.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1988.DAT:*
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Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                            /SIDS1/gcgdata/geneseq/geneseqp/AA1989.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1990.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1990.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1992.DAT:*
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/SIDS1/gcgdata/geneseq/geneseqp/AA1998.DAT:*
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/SIDS1/gcgdata/geneseq/geneseqp/AA2000.DAT:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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52 52	52	52 52	52	52	52	52	52	Score	
89.7 89.7	89.7 89.7	89.7 89.7	89.7	89.7	89.7	89.7	89.7	Query Match	dР
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13	12 12	9 12	σο α			G	ω	В	
R29612 R29703	R15714 R15715	P83021 R10699	P71363	P71226	P71316	P40404	P20403	Ħ	
Goserelin, contg.	Peptide #2 with ho Peptide #3 with ho	Example of gonadol LHRH analogue 3 .	Sequence of a lute	Luteinising hormon	Sequence of lutein	Sequence of peptid	LH-RH analogue 1.	Description	•

41 42 44 45	4 3 3 4 9 8 9 8 9	3 3 3 3 3 5 5 4 3 2 1 6	225 227 239	13 15 16 17 18 19 20 21 22 23
51 51 51	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	22222	1	52 51 51 51 51 51 51
7777	87.9 87.9 87.9 87.9	17777	177777	89.7 87.9 87.9 87.9 87.9 87.9 87.9
10 10 10	10010	1000	100110	10 10 10 10 10 10
12 12 12 12 21	10 11 12 12	0 0 0 0 0 0 0	177065	18 18 20 21 2 2 2 2 4
R14141 R14672 R15713 R15717 Y55061	P71492 P90630 P906475 R06475 R10507	P70922 P70923 P71168 P71230	P40629 P50566 P50222 P60127 P61439 P61403	W22391 W16391 W94891 Y89609 P10097 P10411 P10412 P10416 P30391 ·
analogue #2 ric peptide w ide #1 with h ide #5 with h inising hormo	LH-RH peptide anal Sequence of lutein Gonadotropin relea Pamoate of luteini LHRH analoque #1 c	ď	Gonadoliberin anal Sequence of gonado Gonadotrophin rele Gonadoliberin anta Sequence of lutein Gonadotropin relea	Gonadotropin relea Gonadotropin relea LHRH peptide fregm Core polypeptide f Sequence of lutein Luteinising Hormon Luteinising Hormon Luteinising Hormon Gonadotropin relea Gonadotropin relea Gonadotropin anal

ALIGNMENTS

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RESULT
P20403
ID P2
 Kent JS,
                                                                                                                                                           Synthetic
                                                                                                                                                                               Lutenizing hormone/releasing hormone; microcapsule; hydrolysis;
                                                                                                                                                                                                                                             P20403 standard; Protein; 10 AA.
              (SYNT ) SYNTEX USA INC.
                              18-NOV-1980;
11-DEC-1981;
                                                    17-NOV-1981;
                                                                   26-MAY-1982.
                                                                                  EP52510-A.
                                                                                                               Modified-site
                                                                                                                                     Key
Modified-site
                                                                                                                                                                          fertility.
                                                                                                                                                                                                LH-RH analogue
                                                                                                                                                                                                                01-DEC-1992 (first entry)
                                                                                                                                                                                                                               P20403;
Sanders LM, Lewis DH,
                             80US-0207864.
81US-0329832.
                                                    81EP-0305426
                                                                                               note= "3-(2-napthy1)-D-Ala"
                                                                                                                     /label= OTHER
/note= "Pyroglutamic acid"
                                                                                                                                             Location/Qualifiers
                                                                                                        /label= OTHER
Tice TR;
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RESULT
P40404
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The sequence in P20121 is the consensus sequence of a hormonallly active polypeptide. The sequences in P20403-6 are specific examples these polypeptides. These polypeptides are water soluble and are analogues of lutenizing hormone/releasing hormone (LH-RH). These peptides are used within the scope of the invention in hormonally active microcapsule formulations comprising at least one of these polypeptides and optionally a polymer hydrolysis modifying agent intimately mixed with or coated by a biocompatable, biodegradable polymer which when administered to a mammal, will release a daily amount of polypeptide effective for maintaining an hormonally related condition over a predetermined period of time. The specific hormonally related condition is the control of fertility
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI;
absorption
            Nasal compsn. contg. activity, with bile
                                                                            Anik
                                                                                                                                                                                                                                                                                                                                                                           Sequence of peptide in a nasal composition having luteinising hormone releasing hormone (LHRH) agonist activity.
                                                                                                                                                                                                                                                                                                                                                                                                                  04-FEB-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                            P40404;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 7; 27pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Microencapsulated polypeptide sustained release compsn. - use for release of lutenising hormones etc. for fertility control
                                                 WPI; 1984-159888/26
                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                        chemical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P40404 standard;
                                                                                                                                                     08-DEC-1983;
                                                                                                                                                                                                          EP111841-A
                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                              10-DEC-1982;
                                                                                                                                                                                27-JUN-1984.
                                                                                                   (SYNT ) SYNTEX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity hes 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N
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hwsyalrpg 10
                                                                                                                                                                                                                                                                                                                                       sterilant;
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                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
            contg. nona: or deca:peptide - having LHR
h bile acid (salt) surfactant for enhanced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA;
                                                                                                     (USA) INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10
                                                                                                                             82US-0448548
                                                                                                                                                      83EP-0112369
                                                                                                                                                                                                                                  /label= Gly-NH2
                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                          'label= 3-(2-naphthyl)-D-Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    peptide; 10 AA
                                                                                                                                                                                                                                                                                  'label= pyroGlu
                                                                                                                                                                                                                                                                                                                                                   fertility
                                                                                                                                                                                                                                                                                                                                    fertility control; prostate cancer the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (44213E)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                89.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 52;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                    1; growth promoter; therapy; hormone.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 3;
0.0011;
                         having LHRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 10
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    useful

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RESULT
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      together with a bile acid or its salt as surfactant, in aq. soln. Prefd. peptides are described in US4234571 and are useful for fertility control, growth enhancement, treatment of prostatic cancer, inducing abortion. The compsn. comprises 0.005-5 mg/ml of the peptide, with 0.2-5% w/v of the surfactant, together with the buffer soln. A typical compsn. contains 0.05-4 mg/ml of a peptide and 0.5-4% sodium glycocholate. The molar ratio of bile acid to peptide is equal to or greater than 20:1. An additional surfactant may be
                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence of luteinising hormone releasing having D-3 pyridyl-alanine at position 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P71316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 4; Page 24; 33pp; English.
                              Luteinising hormone releasing hormone analogues - potency, having D-3-pyridyl-alanine or 3-quinolyl-position 6
                                                                                                                                                                                                               US4642332-A
                                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                  Misc-difference
                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                              Prostate cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-APR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P71316 standard; peptide; 10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The inventors claim a nasal compsn. having LHRH agonist activity.
                                                                                               Folkers K,
                                                                                                                                            26-APR-1985;
                                                                                                                                                                  26-APR-1985;
                                                                                                                                                                                                                                                                                                                                       Misc-difference
                                                                                                                     (TEXA ) UNIV TEXAS SYSTEM
                                                                                                                                                                                        10-FEB-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                included
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ω
                                                                           1987-056353/08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hwsyalrpg
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8; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10
                                                                                              Jie-Cheng X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ΑA;
                                                                                                                                             85US-0727711
                                                                                                                                                                  85US-0727711
                                                                                                                                                                                                                                                                                                                                                                                             therapy; agonist.
                                                                                                                                                                                                                                                           10
                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                     /note=
                                                                                                                                                                                                                                              /label= Gly-NH2
                                                                                                                                                                                                                                                                    /label= Pro-NHCH3,
/note= "if Gly (10)
                                                                                                                                                                                                                                                                                                     /label= 3-(3-pyridyl)-D-Ala
                                                                                                                                                                                                                                                                                                                            'label=
       7pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             89.7%;
                                                                                                                                                                                                                                                                                                                           pyro-Glu
                                                                                                Bowers CY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 52;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                     Pro-NHC2H5,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.0011;
                                     3-quinolyl-D-alanine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB
                                                                                                                                                                                                                                                                                                                                                                                                                               hormone (LHRH) analogues
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                                                                                                                                                                                                                                                                                 Pro-NHC3H7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 10;
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                                                   of greater
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Claim 1; column 11;

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RESULT
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Best Local S
Matches 8
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Best Local S
Matches 8
                                                                                                                                                                                The analogue is an agonist. It inhibits the cytotoxic effects of cancer therapy on bone marrow cells, and protects the cells from the undesirable effects of radio- and chemotherapy used to treat hormone-dependent and -independent cancers. The compsns. may be in sustained release form and may be given parenterally, esp. i.m.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           These peptides are synthetic analogues of LHRH which are termed super agonists because of their superior potency. They may be used to treat prostate cancer. The peptides are synthesised by solid phase techniques using benzhydrylamine resin as solid support.
                                                                                                                                                                                                                                                                                                                                                                                                                                 CH659392-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Luteinising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P71226;
                   P71229 standard;
                                                                                                                                                              Sequence
                                                                                                                                                                                                                                            Claim 2; page 2; 4pp; English.
                                                                                                                                                                                                                                                                           Compsns. inhibiting cytotoxic effects in cancer therapy - con luteinising and follicle stimulating hormone release hormone
                                                                                                                                                                                                                                                                                                                               Mathe
                                                                                                                                                                                                                                                                                                                                                                     07-MAY-1984;
                                                                                                                                                                                                                                                                                                                                                                                         07-MAY-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    cytotoxic effects;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Luteinising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-APR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P71226 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                          WPI; 1987-037621/06
                                                                                                                                                                                                                                                                                                                                                 (DEBI-)
                                                                                                                                                                                                                                                                  its analogues
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                                                                   HWSYXLRPG 10
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1
                                                                                                           Similarity
8; Conser
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8; Conser
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                                                                                                                                                              10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               hormone
                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hormone
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                                                                                                                                                                                                                                                                                                                             JL,
                   protein; 10 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             peptide; 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                   bone marrow; agonist; radiotherapy; chemotherapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              releasing hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 releasing
                                                                                                                     89.7%;
88.9%;
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                                                                                                                                                                                                                                                                                                                             Lemaigre
                                                                                                          Score 52; DB
Pred. No. 0.00
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                             g,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                             Mauvernay RY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 8;
0.0011;
                                                                                                                    DB 8;
0.0011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              (D-Ala6)-LHRH; cancer
                                                                                                                               Length 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 10
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                                                                                                                                                                                                                                                                            or
10
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RESULT
P71363
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Best Local S
Matches 8
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                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Compsns. inhibiting cytotoxic effects in cancer therapy - contain luteinising and follicle stimulating hormone release hormone or its analogues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   chemotherapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Luteinising hormone recessing ... cytotoxic effects; bone marrow;
                                     Misc-difference
                                                        Misc-difference
                                                                                               Misc-difference
                                                                                                                            sterilant abortion
                                                                                                                                                          used
                                                                                                                                                                  Sequence of a luteinising hormone-releasing
                                                                                                                                                                                        26-MAY-1991
                                                                                                                                                                                                           P71363;
                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1987-037621/06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mathe
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-MAY-1984;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CH659392-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Luteinising
                                                                                                                                     Infertility treatment;
                                                                                                                                                                                                                              P71363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (DEBI-) DEBIOPHARM SA
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                                                                                                                                                        in a compsn.
                                                                                                                                                                                                                                                                             hwsyslrpg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G,
                                                                                                                                                                                                                             standard; peptide; 10 AA.
                                                                                                                                                                                                                                                                                                                    Similarity
8; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                  page
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                                                                                                                                                                                                                                                                                                                                                                      10 AA;
                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hormone releasing hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hormone releasing
                                                                                                                                                                                      (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  2;
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                                                                                                       Location/Qualifiers
                            /label=
                                                                /label= Tyr-3-(naphthyl)
                                                                                                                                                                                                                                                                                                                                                                                                                                                  4pp;
                                              label= D-Ala
                                                                                     label=
                                                                                                                                                         to treat infertility.
                                                                                                                                                                                                                                                                                                                             89.7%;
88.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lemaigre
                                                                                                                                     impotency; spermatogenesis;
                           Gly-NH2
                                                                                    (pyro)Glu
                                                                                                                                                                                                                                                                                                                   Score 52; DB
Pred. No. 0.00
0; Mismatches
                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hormone analogue
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              prmone; (D-Ser(Bu+)6,des Gly-NH2 10)-LHRH;
agonist; radiotherapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mauvernay RY,
                                                                                                                                                                                                                                                                                                                              DB 8;
0.0011;
                                                                                                                                                                   hormone
                                                                                                                                                                                                                                                                                                                                       Length 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schally
                                                                                                                                                                   (LHRH) analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AV;
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Best Local S
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18-NOV-1980;
08-FEB-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Low doses of the compsn. are used to treat infertility in females and impotency and to stimulate spermatogenesis and androgen prodn. in males. High doses block ovulation and suppress spermatogenesis; and may be used to promote wt. gain in animals, to stimulate abortion in animals and as a chemical sterilant. (See US4234571). For agonist fertility control, the microcapsules release the drug
Claim'1; Page 40; 43pp; German.
                                              New peptide derivs. contg. agonists or antagonists
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P83021 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim
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                                                                                                                                                                                                                 (FARH ) HOECHST
                                                                                                                                                                                                                                                             09-OCT-1986;
                                                                                                                                                                                                                                                                                                              08-OCT-1987;
                                                                                                                                                                                                                                                                                                                                                            13-APR-1988
                                                                                                                                                                                                                                                                                                                                                                                                        EP263521-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  oligospermia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gonadoliberin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example of gonadoliberin peptide analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11-DEC-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       dose 0.01–100 (pref. 0.1–5.0) micrograms/kg/day.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (poly-lactide-coglycolide)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sustained release compsn. microcapsules -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (SYNT ) SYNTEX (USA) INC
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|||| ||||
2 hwsyalrpg 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
nes 8; Conser
                                                                                                                    1988-099948/15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     releasing hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              column 18;
                                                                                                                                                                Sandow JK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lewis DH,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contraceptives;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81US-0329832.
80US-0207864.
85US-0699715.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     agonists; antagonists; fertility; amenorrhoea;
                                                                                                                                                                                                                                                             86DE-3634435
                                                                                                                                                                                                                                                                                                           87EP-0114702
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein; 10 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    89.7%;
88.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sanders
                                                                                                                                                                   Kolar
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                                                                    glycosyl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          polymer,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 52;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cancers.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tice TR;
                                                                      gp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            to treat infertility
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.0011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB

    useful as

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                                                                    gonadoliberin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This peptide is an agonist or antagonist of gonadoliberin. It, and its salts, is useful as an agonist for promoting fertility e.g. for treating amenorrhoea, luteal insufficiency, oligosperma and retarded puberty. It is also useful as a contraceptive and for treating steroid-dependent cancers. As an antagonist it is useful for treating gonadotropin—and steroid-dependent diseases.

The N-terminal has an H gp. or a 1-7C acyl attached. Residues 1, 2 and 3 are opt. ring substd. by one or two of Br. Cl. F. NO2, NH2, Me or OME. Residues 6 and 7 opt. have a partially protected glycosyl attached which increases their water-solubility without impairing their activity.
The peptide is one of several examples of compounds derived from the sequence of LHRH in which the nitrogen atom of at least one of the amide bonds has been alkylated. The peptides are used to modulate levels of sex hormones in males and females. They are stable against proteolytic enzymes and biologically potent after oral admin
                                                                                                                                                                                                                10-JUL-1990;
07-AUG-1989;
                                                                             Claim
                                                                                                   New pseudo nona- and deca-peptide derivs. of LHRH - modulate level of sex hormones in males and females
                                                                                                                                                                                                                                                     02-AUG-1990;
                                                                                                                                                                                                                                                                                                                                                                                                    Key
                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                        WPI; 1991-052535/08
                                                                                                                                                                                      (ABBO ) ABBOTT LABORATORIES
                                                                                                                                                                                                                                                                            20-FEB-1991
                                                                                                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Luteinising hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LHRH analogue
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                                                                           4; Page 74;
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8; Conserv
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3.98;
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Pred.
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Best Local S
Matches 8
            The C-terminal residue (Gly-CO-NH2) can be replaced by ethylamide. This peptide and fragments of it (i.e. amino acids 4-10, 5-10, 6-10 and 7-10) are agonists and antagonists of LHRH. They are useful for treating e.g. precocious or delayed puberty, psychiatric disorders esp. those of the libido or sexual aggression, etc. In addition they are useful for functional exploration of the hypothalamus-hypophyseal axis and for radioimmunological or biological assay (of LH, FSH and steroid levels) in biological fluids and biopsy samples.
                                                                                                                                        New
                                                                                                                                                          WPI; 1991-339753/46.
                                                                                                  Claim 6; Page 50;
                                                                                                                                                                            Gautron J,
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                                                                                                                          we peptide homologous with luteinising hormone-releasing hormone used to treat gynaecological conditions, cancer of gonads and
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                                                                                                                 sexual organs, psychiatric
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Sequence

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Query Match Best Local S Matches 8

Similarity 8; Conserv

Conservative

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Score 52; DB Pred. No. 0.00 0; Mismatches

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Best Local :
                                          The C-terminal residue (Gly-CO-NH2) can be replaced by ethylamide. This peptide and fragments of it (i.e. amino acids 4-10, 5-10, 6-10 and 7-10) may be agonists or antagonists of LHRH. They are useful for treating e.g. precocious or delayed puberty, psychiatric disorders esp. those of the libido or sexual aggression, etc. In addition they are useful for functional exploration of the hypothalamus-hypophyseal axis and for radiommunological or biological assay (of LH, FSH and steroid levels) in biological fluids and biopsy samples.
                                                                                                                                                                                                                                                                                                                               New peptide homologous with luteinising hormone-releasing hormone used to treat gynaecological conditions, cancer of gonads and sec. sexual organs, psychiatric conditions and in assays
     Sequence
                                                                                                                                                                                                                                                                             Claim 6; Page 50; 83pp; French
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gautron J,
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Pred. No. 0.0011;
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Best Local :
                                                                                                                                                                                                                     Goserelin contg. a C-terminal aza-amino acid amide was prepd. by a novel method comprising assembling all the amino acids of the peptide except the C-terminal aza-amino acid by conventional solid phase synthesis, cleaving the peptide from the support with hydrazine and reacting the released hydrazine with a cyanate ion.
    R29703 standard;
                                                                                                                                                                                                                                                                                                                         Solid phase synthesis of peptide(s) contg. aza-aminoacid partic. goserelin, by assembling aminoacid(s) of peptide except C terminal aza aminoacid and cleaving peptide from support with
                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                          Disclosure; Page 2; 4pp; English.
                                                                                                                                                                                                                                                                                                                hydrazine,
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                                                                                       2 HWSYXLRPG 10
                                                                                                                                                                                      peptide also contains a tert-butyloxy gp. in its side chain. peptide is an LHRH analogue useful in the treatment of prostate cer, breast cancer and certain gynaecological conditions.
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| hwsyslrpg
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hwsyslrpg 10
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           peptide; 10
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Pred. No. 0.0011;
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                                                                                                                                                                                                                                                                    peptide with the required amino acid sequence bound to a solid support, cleaving the peptide from its support and opt, reacting prod. with hydrazine to remove any acyl gps. formed during synthetic analogue of LHRH and is useful in the treatment of prostate cancer, breast cancer and certain
                                                                                                                                                                                                                                                                                                                           Goserelin contg. an aza amino acid was prepd. by a novel solid phale synthesis method comprising reacting an active ester or imidazolin of an N-protected aza-amino acid with an appropriate reactive solly support, carrying out further conventional solid phase peptide synthesis steps to add sequentially further amino acids, to form a
                                                                                                                                                                                                                                                                                                                                                                                                                              New N-protected-aza-amino-acyl ester(s) - are used in solid phase synthesis of peptide(s) contg. C-terminal aza-aminoacid, partic.
        Gonadotropin releasing hormone [(3-Mercaptopropanoy1)-Gln1,dAla6]GnRH
                                                                            W22391 standard; peptide; 10 AA
                                                                                                                                                                                                                                                            gynaecological
                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 2;
                                                                                                                                                                                                                                                                                                                                                                                                                      goserelin
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st; gynaecologicol conditions.
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                                                                                                                                                                                                         A gonadotropin releasing hormone conjugate has been developed which has the formula: 2-[L1-Am-(Y1(L2-X)-An)-9-Y2(L2-X)-Ap.OH]r, where A = an amino acid selected from Gly, Ser, Thr, beta-Ala, and Ala, with the proviso that at least one A is Ser or Thr; L1 = a linker optionally attached to an internal marker; L2 = a linker; X = a gonadotrophin creleasing hormone (GnRH) having a free sulphydryl group; Y1, Y2 = Lys or ornithine (Orn); Z = an immunogenic carrier protein; m = 0-3; n = 5 cor ornithine (Orn); Z = an immunogenic carrier protein; m = 0-3; n = 5 cor ornithine (orn); z = an immunogenic carrier useful as vaccines for use in immunosterilising animals, fertility control, and for treatment of steroid hormone stimulated tumour or conditions such as endometriosis. The conjugates employ a hydrophilic linear scaffold as a means to increase loading of desirable hapten onto a carrier protein. Compared to conventional GnHH conjugates, these provide more GnRH per carrier molecule while utilising a minimal number of carrier molecule attachment sites. The present sequence represents [(3-Mercaptopropanoyl) of the novel vaccine compositions provide a high titre of anti-GnRH cantibody and produce minimal injection site lesions.
                                                                                                                                                                                                                                                                                                                                                                                                                                  New gonadotropin releasing hormone conjugates - used a immuno-sterilisation of animals, fertility control or steroid hormone stimulated tumours or conditions
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Modified-site
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                      W16391;
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27-OCT-1995;
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                                                                                                                                     Conservative
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                                       peptide; 10
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                                                          W94891 standard;
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LHRH peptide fragment
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                                                                                                                                                                                                                        Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Immunogen comprising gonadotropin releasing hormone and Pseudomonas exotoxin - generates antibodies that control fertility, reduce aggressive behaviour, and treat tumours responsive to steroid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           by LHRH, e.g. malignant breast cells, malignant prostate cells, malignant ovarian cells, malignant oncofoetal cells or hyperplastic cells. They can also be used for down regulating the libido of an animal. They can also be used for inhibiting pregnancy, prostate enlargement, endometriosis or inflammatory responses. The LHRH compositions induce a more effective immune response against LHRH carrier-adjuvant compositions. The effective immune response against LHRH results in prevention of the release of the hormones LH and FSH from the anterior pituitary. Sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          immune response to LHRH, for castrating an animal, for regulating oestrus cycling in a female animal or for inhibiting characteristics induced by the sexual maturation of an animal, e.g. aggression or sexual activity. They can also be used for achieving production gains in livestock, e.g. reduction or elimination of unwanted organoleptic characteristics from the meat of livestock. They can also be used for inhibiting the growth of cells which are regulated directly or indirectly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates immunogenic composition for eliciting an immune response to luteinising hormone releasing hormone (LHRH). The composition comprises a LHRH-diphtheria toxoid (DT) conjugate adsorbed to an ionic polysaccharide. The LHRH-DT compositions can be used for eliciting an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New immunogenic leutenising hormone releasing hormone compositions comprise LHRH conjugated to diphtheria toxoid and adsorbed to an ionic polysaccharide, used to inhibit reproductive function in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    are peptide derivatives of LHRH.
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Search completed: March Job time: 910 sec

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Leukotoxin carrier
GnRH-leukotoxin ge
Bovine IFNgamma/LK
Chimeric protein #
LKT352: Pasteurel
                                                                                                                                                                                                             Description
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LKT-GnRH
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ALIGNMENTS

RESULT W79573 Chimera; LKT-GnRH chimeric protein W79573 standard; Protein; 695 (UYSA-) UNIV SASKATCHEWAN. 09-AUG-1996; 08-AUG-1997; 19-FEB-1998. WO9806848-A1 Synthetic tumour. cytotoxic 24-DEC-1998 W79573; pCB122; LKT 111; GnRH; Gonadotropin releasing hormone; multime c activity; antigen presentation; immune response; vaccine; (first entry) 96US-0694865 97WO-CA00559 æ

Chimeric protein of leukotoxin and gonadotropin releasing hormone useful for, e.g. preparation of vaccines for reduction of incidence of mammary tumours in mammals

WPI; 1998-159540/14. N-PSDB; V61535

Manns JG,

Potter AA;

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Best Local S
Matches 695
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 9;
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                                                                                                     QRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERFKKLGYDGDNL
                                                                                                                                                                                                                                                                                                                                                                                NSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLGTLGDKLKNIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        695;
syglrpggssqhwsyglrpgsgsqdwsyglrpggs
                         SYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPGGS 695
                                                              RPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPGGSQHWSYGLRPGSGSQDW
                                                                                                                                                                                                             nsnghalakagleltnslieniansvktldefgegisgfgsklgnikglgtlgdklknig
                                                  rpgsgsqdwsyglrpggssqhwsyglrpgsgsqdwsyglrpggsqhwsyglrpgsgsqdw
                                                                                                                                                                                                                                        LAEYQRGTGTIDASVTAINTALAAIAGGVSAAAADLTFEKVKHNLVITNSKKEKVTIQNW
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Pred. No. 2.7e-233;
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eptide fused to sixteen
copies of GNRH-LKT 111-8
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RESULT Y58361 ID Y5

N

Y58361

standard;

Protein;

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ILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLGTIQTAIGLTERG

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                                                                                                                                                                                                                This sequence represents a fusion protein comprising gonadotropin-
CC releasing hormone (GnRH) immunogens and a Pasteurella
CC haemolytica leukotoxin (LKT) protein. The fusion protein comprises, if
CC the N to C-terminal direction, a synthetic peptide sequence (Y58364), an
CC eight copy GnRH multimer (composed of two copies of the 4xGnRH multimer
CC sequence of Y58363), the LKT protein (which functions as a carrier
CC protein), and a second eight copy GnRH multimer. The fusion protein may
CC be used in a vaccine composition for prepubertal administration to a
CC vertebrate subject to result in prolonged suppression of reproductive
CC behaviour and/or fertility, GnRH immunogens, analogues or antibodies
CC that cross-react with endogenous GnRH of a vertebrate subject are used
CC to manufacture a composition or vaccine for immunosterilisation or
CC communocontraception of feline, canine, equine or cervine subjects.
CC The vaccines are used to suppress reproductive behaviour and/or
CC results in a prolonged, long-term suppression of
CC results in a prolonged, long-term suppression of
CC varian development and/or function in females. The methods provide a
CC viable and desirable alternative to surgical forms of sterilisation that
                                                                                                                                 Matches
                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hormone immunogens, analogues or antibodies used to manufacture vaccines for suppression of reproductive behavior and fertility
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06-MAY-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 20; Fig 6A-6F; 88pp; English
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                                                                                                                                                                                                              Sequence
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                                                                                                                             Match 100.0%;
Local Similarity 100.0%;
nes 695; Conservative
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                               61
                HWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGGSSEPKTGAKKI
                                                                                2000-086857/07
hwsyglrpgsgsqdwsyglrpggssqhwsyglrpgsgsqdwsyglrpggssfpktgakki
                                                              matvidrsqhwsyglrpgsgsqdwsyglrpggssqhwsyglrpgsgsqdwsyglrpggsq
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Mammalia.
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99US-0306689.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          relates to a method of using two GRNH immunogen vaccines to produce uncastrated male animals for meat production, one vaccination prior to or during the fattening period to reduce circulating testostecrone levels, and the second vaccination about 2-8 weeks before slaughter to substantially reduce androgenic and/or non-androgenic steroids. The invention is used to produce food animals that exhibit the weight gain and muscle/fat distribution of male animals without the problems associated with male animals. Such problems include "boar taint", a urine-like odour found in cooked meat of uncastrated pigs which is caused by steroids stored in the tissues, and similar flavour impairments in the meat of other intact male animals. The invention is more reliable than prior art immunocastration techniques.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     e.g. preparation of vaccines for tumours in mammals
                                                                                                                                                                                                                                                                                                                                                                                                                            Figure 7.1-5; 118pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96US-0694865
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                                                                                                                                                                                                          73.6%;
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                                                                                                                                                                                              0;
                                                                                                                                                                                          Score 2642.5; DB 19
Pred. No. 9.6e-170;
Pred. No. 9.6e-170;
                                                                                                                                                                                                                      DB 19;
                                                                                                                                                                                            Indels
                                                                                                                                                                                                                   Length
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Chimeric
and a 4-copy gonadoliberin-releasing hormone (GnRH) repeat sequence (see also W03944). It is the product of a chimeric gene (T37177) produced by deleting an approx. 1300 bp sequence from pCB113 (see also T37176) coding for amino acids 352-784
                                                                                                       A chimeric protein (W03943) is composed of a fusion between a truncated leukotoxin (LKT-111) from Pasteurella haemolyti
                                                                                                                                                                                   Claim
                                                                                                                                                                                                                                Gonadotropin-releasing hormone multimer fusion proteins - w. leukotoxin polypeptide for increased immunogenicity, useful antifertility vaccine prodn.
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fusion protein; immunogen; vaccine; fertility cor
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DB; T37177.
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ATCC 69748) was obtd. Esche
the chimeric protein, which
control, esp. immunological
                                                       Chimeric
                                                              Chimeric
                                                                                                                                                           W03942 standard;
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                                                                                    Leukotoxin; LKT; fusion protein;
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immunogen; vaccine; fertility con
               /label= LKT
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99.3%;
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Matches 534;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            a truncated leukotoxin (LKT-352) from Pasteurella haemolytica (se also W03945) and a 4-copy gonadoliberin-releasing hormone (GnRH) repeat sequence (see also W03944). It is the product of a chimeric gene (T37176) produced by ligating a synthetic sequence for the 4-copy GnRH into vector pAA352 (ATCG 68283), which carrie the LKT-352 gene. Recombinant plasmid pCB113 (LKT 352:4 copy GnRH, ATCG 69749) was obtd. Escherichia coli transformants produced the chimeric-protein, which is useful as a vaccine for fertility control, esp. immunological sterilisation of domestic or farm animals.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A chimeric protein (W03942) is composed of a fusion a truncated leukotoxin (LKT-352) from Pasteurella h
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                          Disclosure; Figure
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Query Match
Best Local Similarity
                                                                                                                                                                                                                                                              Y3330-939). The myostatin peptides are derived preferably from a region of amino acid residues 1-275, 25-300, 50-325 or 75-350 of the above sequences. The peptides and the nucleic acids encoding the peptides are useful as vaccines for eliciting an immune response in a vertebrate against a myostatin immunogen. They result in increasing body weight, muscle mass, number and size of muscle cells, muscle strength, mammary gland tissue, lactation, appetite or feed uptake, life span of the vertebrate, and cause a reduction in body fat content, useful for muscle wasting conditions. The vaccines are also useful for treating a disorder which comprises degeneration or wasting of muscle in a vertebrate, and useful for modulating GDF11 activity. The present sequence represents a leukotoxin carrier protein (LKT 114) which is used as an immunological carrier protein to form a myostatin immunoconjugate.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Myostatin; mouse; rabbit; human; baboon; bovine; porcine; ovine; chick; turkey; zebrafish; immune response; vaccine; body weight; muscle mass; mammary gland tissue; lactation; feed uptake; muscle degeneration; GDF11 activity; LKT 114; leukotoxin carrier protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention provides myostatin peptides consisting of 3-100 amino acids, derived from a region of mouse, rabbit, human, baboon, bovino porcine, ovine, chick, turkey or zebrafish myostatin (see sequences Y33930-939). The myostatin peptides are derived preferably from a reference of the control of the con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New myostatin peptide, multimers and immunoconjugates for eliciting an immune response in a vertebrate against a myostatin immunogen
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Potter AA,
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                            91US-0779171
92US-0960932
                                                   92WO-CA00449
                                                                                                                                                                                    gene fusion
                                                                                                     /note= "recombinant leukotoxin protein"
927..936
                                                                                                                          Location/Qualifiers
                                                                                                                                                             flanking; recombinant; antigen; somatostatin;
easing hormone; rotavirus viral protein 4;
                                                                                                                                                                                                                                 Protein;
                                                                                                                                                                                                  entry)
                                                                                              "GnRH"
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                                                                                                                                                      reproduction;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Immunological carrier system with enhanced immunogenicity comprises chimeric protein comprising leuco:toxin peptide homologous protein fused to antigen esp. somatostatin or gonadotropin releasing hormone
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DB; Q41322.
                     aasstfdltnvvqrigieldnagnvtktketkiiaklgegddnvfvgsgtteidggegyd
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This sequence represents a fusion between bovine gamma interferon (IFNgamma) and Pasteurella haemolytica leukotoxin (LTK). The leukotoxin gene, ItkA, was isolated from a gene library of P. haemolytica by chromosome walking. Immunogenic fusion proteins
                                                                                                                                                                                                                                                                                                                                                                                         Bovine; interleukin-2; IL2; P. haemolytica; leukotoxin; LTK; IFN; ltkA; chromosome walking;, fusion protein; vaccine; interferon; g monoclonal; polyclonal; antibody.
                                                    Disclosure;
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16-OCT-1991;
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(UYSA-) UNIV
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SASKATCHEWAN.
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22-AUG-1990;
16-OCT-1991;
                                                                                                                                                                                                                                                                                                                                       bovine gamma interferon (gamma IFN) sequence and a leukotoxin sequence. The chimeric proteins of the invention comprise a cytokine, selected from interleukin-2 (II-2) and gamma IFN, linked to at least one RTX toxin epitope (preferably the sequence shown in W13865). The RTX toxin used to provide the epitope sequence is preferably a leukotoxin, especially the full-length Pasteurella haemolytica leukotoxin. Alternatively, the leukotoxin is a truncated leukotoxin lacking leukotoxic activity, especially LKT352. The chimeric proteins can be used for the production if vaccines against respiratory diseases such as pneumonia, particularly fibrinous pneumonia caused by P.haemolytica, including shipping fever in fibrinous pneumonia caused by P.haemolytica, including shipping fever in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W13866 and W13867 represent immunogenic chimeric proteins of the invention. This sequence represents a chimeric protein containing the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (CIBA )
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                                                              haemolytica
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Matches 483;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                to the same position on gels.
The LKT352 gene was prepd. as follows: lktA, an Mccontg. the gene was ligated into the SmaI site of pAA179. From this, two constructs were made in the pAA179.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vaccines for Pasteurella haemolytica infection in cattle comprise sub-unit antigens from P haemolytica fimbrial protein, plasmin receptor, 50 K outer membrane protein and leukotoxin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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                                                                                                                                                                                                                                                                      {\tt lnkelqaerviaitqqqwdnnigdlagisrlgekvlsgkayvdafeegkhikadklvqld}
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 2126; DB 12;
Pred. No. 9.7e-135;
0; Mismatches 0;
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RESULT 13
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                           Immunological carrier system with enhanced immunogenicity comprises chimeric protein comprising leuco:toxin peptide homologous protein fused to antigen esp. somatostatin or gonadotropin releasing hormone
                                                                                                                                                                                                                                                                            Vector; LKT 352; flanking; recombinant; antigen; somatostatin; gonadotropin releasing hormone; rotavirus viral protein 4; carrier protein; lactation; reproduction.
                                                                                WPI; 1993-152482/18.
N-PSDB; Q41317.
                                                                                                                                                                                                                                                                                                                                                                                        R34545 standard; Protein;
        Disclosure; Fig
                                                                                                                 Hughes
                                                                                                                                                          16-OCT-1991;
14-OCT-1992;
                                                                                                                                                                                          15-OCT-1992;
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                                                                                                                                                                                                                                                       Pasteurella haemolytica.
                                                                                                                                                                                                                                                                                                                        Leukotoxin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   kqvddliakgngkitqdelskvvdnyellkhsknvtnsldklissvsaftssndsrnvlv
                                                                                                                 HPA,
                                                                                                                                                                                                                                                                                                                      352 produced from
                                                                                                               Potter AA,
                                                                                                                                     SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                         91US-0779171
92US-0960932
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       95pp; English
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                                                                                                                 Redmond
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incubating cell lysates with bovine neutrophils and measuring the crease of lactate dehydrogenase from the neutrophils. A 4kb cragment was obtd. Progressively larger clones were isolated by chromosome walking to isolate full length recombinants of ca. 8kb, in partial the clone was subjected to restriction enzyme digestion to yield two clones, one expressing truncated leukotoxin peptide at 1 cm partial to the other expressing the full length leukotoxin at 1 clone was subjected to restriction enzyme digestion to yield two clones, one expressing the full length leukotoxin at 1 clone levels and the other expressing the full length leukotoxin at 1 clone was ligated to the truncated gene clone to yield plasmid parafs2. The 2 clone was used to produce chineric proteins by gene fusion with an 2 carrier protein to generate fusion with an 2 carrier protein to bring about a larger considered that the antigen alone. Immunisation with these antigens can regulate growth rate, lactation and reproductive efficiency cas also parafected. and that had been boosted with a conc. culture supernatant of p. haemolytica to increase anti-leukotoxin antibody levels. Positive colonies were screened for their ability to produce leukotoxin by Gene libraries of P. haemolytica Al (strain B122) were constructed in lambda gtll and pUCl3. Resulting clones were used to transform coli and individual colonies were pooled and screened for reaction with serum from a calf which had survived a P. haemolytica infecti R34546-8 ength clone pAA352. The infection efficiency.

Sequence 926

Local Similarity

59.2%;

Score 2126; Pred. No. 9

Length

밁 ΩV 밁 Qy δÕ В ΩV DЬ Ş Вþ Ş рь Дb Q δÃ DЬ Ωy Вb Qy Matches 483; 248 455 548 488 428 455 368 455 308 411 351 188 128 171 291 231 89 aasstfdltnvvgrigieldnagnvtktketkiiaklgegddnvfvgsgtteidggegyd 607 gvistilqyskqamfehvankihnkiveweknnhgknyfengydarylanlqdnmkflln sangiidvsnsgkaktqhilfrtplltpgtehrervqtgkyeyitklninrvdswkitdg lnkelqaerviaitqqqwdnnigdlagisrlgekvlsgkayvdafeegkhikadklvqld Conservative 0, Mismatches ; DB 14; 9.7e-135; hes 0; Indels 436; Gaps 454 487 427 410 350 187 454 454 454 367 454 307 247 290 67 ۲.

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         P. haemolytica recombinant leukotoxin from pAA352.

P. haemolytica recombinant leukotoxin from pAA342, contained the So-ahali fragment of the 1tkA gene, while the other, pAA345, contained the entire 1ktA gene, while the other, paa345 contained the entire 1ktA gene. pAA342 expressed a truncated Leukotoxin peptide at high levels, while pAA345 expressed full length leukotoxin at very low levels. Therefore, the 3' end of the 1ktA gene was ligated into pAA342, yielding plasmid pAA352.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CA2099707-A
                                                                                                               The vaccine pref. further comprises an immunogenic leukotoxin polypeptide, esp. an immunogenic Pasteurella haemolytica leukotoxin homologous to LK7352. Example 1.2 describes the prodn. of
                                                                                                                                                                                                         Claim 5; Fig 5; 78pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                        02-JUL-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R50291;
                                                                                                                                                                                                                                                    Haemophilus somnus outer membrane protein extract enriched with iron-regulated proteins, opt. contg
                                                                                                                                                                                                                                                                                                 N-PSDB; Q44760.
                                                                                                                                                                                                                                                                                                                                             Harland RJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 03-JAN-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pasteurella haemolytica Al (strain B122).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Recombinant leukotoxin from plasmid pAA352.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R50291 standard; Protein; 926
                                                                                                                                                                            A vaccine comprising an outer membrane protein (OMP) extract of
                                                                                                                                                                                                                                                                                                                                                                          (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                                                                                                                     29-JUN-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LKT352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vaccine; outer iron regulated
                                                                                                                                                              Haemophilus somnus enriched with iron regulated proteins is new.
                                                                                                                                                                                                                                        leuco:toxin antigens,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or new leukotoxin is 98% homologous to authentic
                                                                                                                                                                                                                                                                                                                                             Potter AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    membrane protein; OMP; Haemophilus somnus;
protein; leukotoxin; Pasteurella haemolytica;
                                                                                                                                                                                                                                                                                                                                                                                                        92US-0908253
                                                                                                                                                                                                                                                                                                                                                                                                                                     93CA-2099707
                                                                                                                                                                                                                                        for use
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Seq Query L Best L 11 12 35 45 45 45 45 45 45 45 45 45 45 45 45 45	OSISSIOFARGS 593	75 APTSML		
Duetry Match Dest Local Sinitarity 59.2%; Score 2126; DB 15; Length 926; Bast Local Sinitarity 52.6%; Pred. No. 9.7e-125; Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 111111111111111111111111111111111111		11111		
Duerry Match 19.2%; Score 2156; DB 15; Length 926; Best Local Similarity 52.5%; Pred, No. 9, 7e-135; Best Local Similarity 52.5%; Pred, No. 9, 7e-135; Matches 483; Conservative 0; Mismatches 0; Indels 435; Gaps 111 SPPRTGAKKILLYPONYCYDTPOONGCODLYKAAEELGIEVQEEENNIATAACTSLOTI 1	AKGNGKITQDELSKVVDNYELLKHSKNVTNSLDKLI:	15 KQVE		
Duery Match Dest Local Similarity Seet Matches Seet Local Similarity Seet No. 9, 7e-135; Indels 435; Indels 436; Gaps Indels 436; Inde		88 dltf		
Dest Local Similarity	KHNLVITNSKKEKVTIQNWFREADFAKEVPNYKATKDEKIEEIIG	55 DLTF		
Ouery Match	gddfidggkgndllhggkgddifvhrkgdgndiitdsdgndkl	28 gddild	Дb	
Query Match Query Match Sest Local Similarity S2.6%; Pred. No. 9.7e-135; Length 926; Best Local Similarity S2.6%; Pred. No. 9.7e-135; Length 926; Best Local Similarity S2.6%; Pred. No. 9.7e-135; Indels 436; Gaps Matches 433; Conservative 0; Mismatches 0; Indels 436; Gaps 111 SFFKTGAKKIILYIPQNYQYTDGOKGLODLVKAARELGIEVQREERNIATAGTSLGTI 121 SFFKTGAKKIILYIPQNYQYTDGOKGLODLVKAARELGIEVQREERNIATAGTSLGTI 131 SFFKTGAKKIILYIPQNYQYTDGOKGLODLVKAARELGIEVQREERNIATAGTSLGTI 131 SFFKTGAKKIILYIPQNYQYTDGOKGLODLVKAARELGIEVQREERNIATAGTSLGTI 132 SFRTAKKIILYIPQNYQYTDGOKGLODLVKAARELGIEVQREERNIATAGTSLGTI 133 GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG 231 GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG 231 GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG 231 GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG 231 GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG 232 GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG 233 GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG 234 GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG 235 TLCDKLKNIGGLDKAGLGLDVISGLLSGATAALVIANSVKTLDEFGEQISQFGSKLQNIKGLG 236 GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG 237 TLCDKLKNIGGLDKAGLGLDVISGLLSGATAALVIANSVKTLDEFGEQISQFGSKLQNIKGLG 238 TLCDKLKNIGGLDKAGLGLDVISGLLSGATAALVIANSVKTLDEFGEQISGFELANQVVGNI 239 TLCDKLKNIGGLDKAGLGLDVISGLLSGATAALVIANSVKTLDEFGEQISGFGSKLQNIKGLG 241 KKUSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAPAGIANXFTHAKVGAGFELANQVVGNI 242 KKUSSYILAQRVAAGLSSTGPVAALASTVSLAISPLAPAGIANXFTHAKVGAGFELANQVVGNI 243 TKANSSYILAQRVAAGLSSTGPVAALASTVSLAISPLAPAGIANXFTHAKKYGAGFELANQVVGNI 244 KKUSSYILAQRVAAGLSSTGPVAALANSTVSLAISPLAPAGIANXFTHAKKYGAGFELANQVVGNI 245 TLCCKLKNIGGLDKAGLGLDVISGLLSGATAALASTAKKYGAGFELANQVVGNI 246 KKUSSYILAGRAAGLSSTGPVAALASTVSLAISPLAPAGIANXFTHAKKYGAGFELANQVVGNI 247 TKANSSYILAQRVAAGLSSTGPVAALASTVSLAISPLAPAGIANAKTVAGGGAGFELANQVVGNI 248 TKANSSYILAQRVAAGLSSTGPTAALASTAGGVAAAAA 248 LKEVSSYILAGRAAGLEETAALASTVSLAISPLAPAGIANQVVGNI 249 TKANSSYILAQRVAAGLSSTGATAALAS		55		
Query Match Sest Local Similarity Sest Local Similarity Sect No. 9.7e-135; Indels 436; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 436; Gaps Matches 483; Conservative 0; Mismatches 0; Indels 436; Gaps Ill Septgakkillylponydydteggnglqdlvkaaeelgievgreernniataqtslgtl Septgakkillylponydydteggnglqdlvkaaeelgievgreernniataqtslgtl 61 Ill Septgakkillylponydydteggnglqdlvkaaeelgievgreernniataqtslgtl 63 Ill Septgakkillylponydydteggnglqdlvkaaeelgievgreernniataqtslgtl 63 Ill Septgakkillylponydydteggnglqdlvkaaeelgievgreernniataqtslgtl 63 Ill Septgakkillylponydydteggnglqdlvkaaeelgievgreernniataqtslgtl 16 Ill Septgakkillylponydydteggnglqdlvkaaeelgievgreernniataqtslgtl 16 Reflection Section Sect	${\tt tkdtlkaveeiigtshndifkgskfndafnggdgvdtidgndg}$	68 nnghha	DЬ	
Query Match Guery Match Best Local Similarity 52.8%; Pred. No. 9.7e-135; Best Local Similarity 52.6%; Pred. No. 9.7e-135; Matches 483; Conservative 0; Mismatches 111 SPRYTGAKKILLYIPONYOYDEROONGLODLYKAABELGIEVOREBUNNATAOTSLGTI		55		
Query Match Best Local Similarity 59.2%; Score 2126; DB 15; Length 926; Best Local Similarity 52.6%; Pred. No. 9, 7e-135; Matches 483; Conservative 0; Mismatches 0; Indels 436; Gaps 111 SFPRTGAKKIILYPONYOYDTEOGNGLODLYKAREKOILYPORRERNINIANAOTSLGT! 17	${f galtidatketeqgsytvnrfvetgkalhevtsthtalvgnre}$	08 rvhysr	Db	
Query Match Sequence 926 AA; Query Match Best Local Similarity 52.6%; Pred. NO. 9.7e-135; Matches 483; Conservative 0; Mismatches 0; Indels 436; Gaps 111 SPPKTGAKKILLYIPQNYOYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLGTI 17 [55		
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Sequence 926 AA; Query Match 59.2%; Score 2126; DB 15; Length 926; Best Local Similarity 52.6%; Pred. No. 9.7e-135; Matches 483; Conservative 0; Mismatches 0; Indels 436; Gaps 111 SFPKTGAKKIILYIPQNYQYDTEQGNGLQDLYKAAEELGIEVQREERNNIATAQTSLGTI 17		55		•
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	σ	equence	S	
CC NB: the protein sequence in Fig 5 comprises 926 amino acids, CC however this protein is described in the text as having CC 931 amino acids. XX	sin sequence in Fig 5 comprises 926 amino aci protein is described in the text as having ids.	the prower thing a mino a		

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W03945
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                                                                                                                                                                                Best Local Similarity
Matches 483; Conserv
                                                                                                                                                                                           Query Match
Best Local :
                                                                                                                                                                                                                                                                    A truncated leukotoxin (W03945), LKT 352, lacks the cytotoxic portion of the native protein from Pasteurella haemolytica. It is the product of plasmid pAA352 which carries a truncated lktA gene (T37179). A fusion protein (W03942) between LKT352 and a gonadotropin releasing hormone tetramer can be expressed in Escherichia coli. This is useful as a vaccine for fertility control, partic. immunological sterilisation of domestic or
                                                                                                                                                                                                                                                                                                                                                                                 Gonadotropin-releasing hormone multimer fusion proteins -
leukotoxin polypeptide for increased immunogenicity, usefi
antifertility vaccine prodn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Leukotoxin; LKT; gonadotropin-releasing hormone; fusion protein; immunogen; vaccine; fertility corcontraceptive; sterilisation; plasmid pAA352.
                                                                                                                                                                                                                                                                                                                                                           Example 1; Fig 3A-3I; 87pp; English.
                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-JAN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-AUG-1996.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P. haemolytica truncated leukotoxin (LKT352).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-NOV-1996
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1996-384447/38.
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Pred. No. 9.7e-135;
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Qy 351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF 410		aptsmldqslsslqfargs 926	908	dg
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF			575	Qy
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESY&EFF	90		848	Db
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	57		515	Qy
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	84		788	Db
351 TKAVSSYILAQRVAAGISSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	514		455	Qy
351 TKAVSSYILAQRVAAGISSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	787		728	ДЪ
351 TKAVSSYILAQRVAAGISSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	454		455	Qy
351 TKAVSSYILAQRVAAGISSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	727		668	Db
351 TKAVSSYILAQRVAAGISSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	454		455	Qy
351 TKAVSSYILAQRVAAGISSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	667		809	DЪ
351 TKAVSSYILAQRVAAGISSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	454		455	Qy
351 TKAVSSYILAQRVAAGISSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	607		548	DЪ
351 TKAVSSYILAQRVAAGISSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	454		455	Оy
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	547	angil dvs nsg kakt qhilf rtplltpg tehrervqtg kyeyitklnin rvdswkitdg	488	DЬ
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	454		455	· Qy
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	487		428	Db
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	454		455	Qy
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	427	lln	368	DЪ
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	454		455	Qy
351 TKAVSSYILAQRVAAGISSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	367		308	DЪ
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF 	45		411	Qy
351 TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF	30		248	Db
	41		351	Qy

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Copyright (c) 1993 - 2000 Compugen Ltd.
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US-09-305-924-13 US-09-306-689-13 US-09-383-912-16 US-09-383-912-10 US-09-383-912-8

Sequence Sequence Sequence Sequence Sequence

13, Appl 13, Appl 16, Appl 10, Appl 8, Appli

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Query Match 100.0%; Score 3591; DB 17; Best Local Similarity 100.0%; Pred. No. 3.1e-281; Matches 695; Conservative 0; Mismatches 0;

Indels Length 695;

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1 MATVIDRSQHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPGGSQ

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24-13 13, Application US/ NEORNATION: TT: Jack G. Manns TT: Stephen D. Acres TT: Richard Harland INVENTION: METHODS FERENCE: 9001-0048 APPLICATION NUMBER: FILING DATE: 1998-0 FILING DATE: 1988-0 FILING DATE		5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.
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TITLE OF INVENTION: METHODS FOR SUPPRESSING RE TITLE OF INVENTION: ANIMALS FILE REFERENCE: 9001-0047 CURRENT APPLICATION NUMBER: US/09/306,689B CURRENT FILING DATE: 1999-05-06 EARLIER APPLICATION NUMBER: US 60/088,024 EARLIER FILING DATE: 1998-06-04 NUMBER OF SEQ ID NOS: 14 SOFTWARE: PATENTIN VET. 2.0 SEQ ID NO 13 LENGTH: 695
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APPLICANT: Robbins, Sarah C.
Query Match
Best Local Similarity
                                 OTHER INFORMATION:
OTHER INFORMATION:
09-306-689-13
                                                                        TYPE: PRT ORGANISM: Artificial Sequence
                                                                FEATURE:
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US-09-383-912-16
; Sequence 16, Application US/09383912
; GENERAL INFORMATION:
              COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                             APPLICANT: POTTER, ANDREW APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                             TITLE OF INVENTION: GNRH-LEUKOTOXIN NUMBER OF SEQUENCES: 34
                                                                                         COMPUTER READABLE FORM:
                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
                                                                                                                                    STREET: 285 HAM
CITY: PALO ALTO
STATE: CA
                                                                                                         ZIP: 94301
                                                                                                                     COUNTRY:
APPLICATION NUMBER:
                                                                       MEDIUM TYPE:
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TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 699 amino acids
TYPE: amino acid
TOPOLOGY.
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Best Local
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REFERENCE/DOCKET NUMBER: 9001-0016.22
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION: NAME: MCCRACKEN, THOMAS
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ELLKHSKNYTNSLDKLISSVSAFTSSNDSRNVLVAPTSMLDQSLSSLQFARGSQHWSYGL
                                                                                                                                                                FREADFAKEVPNYKATKDEKIEEIIGQNGERITSKQVDDLIAKGNGKITQDELSKVVDNY
                                                                                                                                                                                                                 LAEYQRGTGTIDASVTAINTALAAIAGGVSAAAADLTFEKVKHNLVITNSKKEKVTIQNW
                                                             RPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPGGSQHWSYGLRPGSGSQDW
                                                                                                                                                                                                    LAEYQRGTGTIDASVTAINTALAAIAGGVSAAAADLTFEKVKHNLVITNSKKEKVTIQNW
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US-09-383-912-10
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US-09-383-912-10
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Best Local
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INFORMATION FOR SEQ ID NO:
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APPLICATION NUMBER: US,
FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 544 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION: TELEPHONE: (415)327-3400
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APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: GnRH-LEUKOTOXIN CHIMERAS NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: POTTER, ANDREW APPLICANT: MANNS, JOHN G.
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468
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0
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CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME:
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TNSKKEKVTIQNWFREADFAKEVPNYKATKDEKIEEIIGQNGERITSKQVDDLIAKGNGK
                                       KKLGYDGDNLLAEYQRGTGTIDASVTAINTALAAIAGGVSAAAA---DLTFEKVKHNLVI
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                        KKLGYDGDNLLAEYQRGTGTIDASVTAINTALAAIAGGVSAAAANLKDLTFEKVKHNLVI
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Pred. No. 9.4e-205;
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Query Match Best Local Similarity 55.1%; Pred. No. 7.8e-187; Matches 534; Conservative 0; Mismatches 0; Indels 436; Gaps 1; Matches 534; Conservative 0; Mismatches 0; Indels 436; Gaps 1; Qy 111 SFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLGTI 170 B SFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLGTI 67 Qy 171 QTAIGLTERGIVLSAPQIDKLLQKTKAGQALGSAESIVQNANKAKTVLSGIQSILGSVLA 230	Db 368 THSKKENTIONNEREADPKKEVPNYARTSDEXIEETIGONERITSKOVDDLIAKKNKX 427 97 528 TYODLIAKVNDAY ELLAHSKNUTNSLDKLISVSAFTSSNDSRRVLVARTSMLOGSLSSI 587 11111111111111111111111111111111111	
RESULT 6 US-09-252-149A-26 US-09-252-149A-26 Sequence 26, Application US/09252149A GENERAL INFORMATION: APPLICANT: Morsey, Mohamad TITLE OF INVENTION: IMMUNOLOGICAL METHODS TO MODULAR MYOSTATIN IN TITLE OF INVENTION: VERTBERATE SUBJECTS FILE REFERENCE: 9001-0042 CURRENT APPLICATION NUMBER: US/09/252,149A CURRENT FILING DATE: 1999-02-18 PRIOR APPLICATION NUMBER: 60/075,213 PRIOR FILING DATE: 1998-02-19 NUMBER OF SEQ ID NOS: 36 SOFTWARE: Patentin Ver. 2.0 SEQ ID NO 26 LENGTH: 490 TYPE: PRT	Db 188 TLGDKLKNIGGLDXAGLGLDVISGLLSGATAALVLADKNASTAKKVGAGFELANQVYGNI 247 Qy 351 TKAVSSYILAGRVAAGLSSTGPVAALLASTYSLAISPLAFAGIADKNYAKKSLESYAERF 40 11111111111111111111111111111111111	

65.6%;

Length

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Sequence 26, Application US/09252149B
GENERAL INFORMATION:
APPLICANT: Barker, Christopher A.
APPLICANT: MOTSEY, MOHAMAD
TITLE OF INVENTION: INMUNOLOGICAL METHODS TO MOI
TITLE OF INVENTION: VERTEBRATE SUBJECTS
FILE REFERENCE: 9001-0042
CURRENT APPLICATION NUMBER: US/09/252,149B
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: 60/075,213
PRIOR APPLICATION NUMBER: 60/075,213
PRIOR FILING DATE: 1998-02-19
NUMBER OF SEQ ID NOS: 39
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 26
LENGTH: 400
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US-09-252-149A-26
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Best Local Similarity
Matches 483; Conserv
-09-252-149B-26
              OTHER INFORMATION:
OTHER INFORMATION:
                                                        LENGTH: 490
TYPE: PRT
ORGANISM: Artificial Sequence
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                                              FEATURE:
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           Description of Artificial Sequence: leukotoxin polypeptide Figures 15A-15D
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; Pred. No. 1.7e-181;
0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 10, Application US/07779171

GENERAL INFORMATION:
APPLICANT: Potter, Andrew A.
APPLICANT: Redmond, Mark J.
APPLICANT: Hughes, Huw P.A.
TITLE OF INVENTION: ENHANCED IMMUNOGENICITY USING
TITLE OF INVENTION: PASTEURELLA HEAMOLYTICA LEUKOTOXIN CHIMERAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 483; Conserv
                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/779,171
                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
COMPUTER: IBM PC com
NAME: Robins, Roberta L.
REGISTRATION NUMBER: 33.208
REFERENCE/DOCKET NUMBER: 29
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-327-7250
                                                                                  FILING DATE: 19911016
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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STREET: 545 Middlefield Road, (
CITY: Menlo Park
STATE: California
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Conservative (
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; Pred. No. 1.7e-181;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                        Suite 200
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INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 936 amino acids
TYPE: AMINO ACID

linear

TELEFAX: 415-TELEX: 706141

415-327-2951

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Best Local S
Matches 493
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                                        DLTFEKVKHNLVITNSKKEKVTIQNWFREADFAKEVPNYKATKDEKIEEIIGQNGERITS
                                                                                            GDDILDGGNGDDFIDGGKGNDLLHGGKGDDIFVHRKGDGNDIITDSDGNDKLSFSDSNLK
                                                                                                                                                                                                  RVHYSRGNYGALTIDATKETEQGSYTVNRFVETGKALHEVTSTHTALVGNREEKIEYRHS 667
                                                                                                                                                                                                                                                   AASSTFDLTNVVQRIGIELDNAGNVTKTKETKIIAKLGEGDDNVFVGSGTTEIDGGEGYD 607
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Pred. No. 1e-167;
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US-08-455-970-12
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                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                Matches 493;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07,
FILING DATE: 14-OCT-1992
ATTORNEY/AGENT INFORMATION:
NAME: ROBINS, ROBERTA L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 327-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: 200 CITY: PALO ALTO CITY: CALIFORNIA "NUTTED ST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS
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                              188
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351
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: ROBINS, ROBERTA REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/0 FILING DATE: 31-MAY-1995
                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                    8
                                           TLGDKLKNIGGLDKAGLGLDVISGLLSGATAALVLADKNASTAKKVGAGFELANQVVGNI
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TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF
                                                                                          GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG
                              TLGDKLKNIGGLDKAGLGLDVISGLLSGATAALVLADKNASTAKKVGAGFELANQVVGNI
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                                                                                                                                                                                                                                                                                61.0%; ilarity 53.1%; Conservative
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Pred. No. 1e-167;
                                                                                                                                                                                                                                                                                 Mismatches
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RESULT 10
US-07-779-171-14
                                                                                                                                                                                                                                                                                                                             Sequence 14, Application US/07779171 GENERAL INFORMATION:
   SOFFWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/779,17: FILING DATE: 19911016
                                                                                                                                                                                                                                             APPLICANT: Potter, Andrew A.
APPLICANT: Redmond, Mark J.
APPLICANT: Hughes, Huw P.A.
TITLE OF INVENTION: ENHANCED IMMUNOGENICITY
TITLE OF INVENTION: PASTEURELLA HEAMOLYTICA
                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
COMPUTER: IBM PC com
                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    668 NNQHHAGYYTKDTLKAVEEIIGTSHNDIFKGSKFNDAFNGGDGVDTIDGNDGNDRLFGGK
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                                                           MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                              ZIP: 94025
                                                                                                                                        COUNTRY:
                                                                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                     APTSMLDQSLSSLQFARGSQHWSYGLRPG 603
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                                                                                                                                                                        SSEE: Morrison & Foerster
T: 545 Middlefield Road,
Menlo Park
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                    US/07/779,171
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Best Local Similarity
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SEQUENCE CHARACTERISTICS:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-327-7250
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ATTORNEY/AGENT INFORMATION:
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TYPE: A
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REGISTRATION NUMBER:
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GDDILDGGNGDDFIDGGKGNDLLHGGKGDDIFVHRKGDGNDIITDSDGNDKLSFSDSNLK 787
                                                           NNQHHAGYYTKDTLKAVEEIIGTSHNDIFKGSKFNDAFNGGDGVDTIDGNDGNDRLFGGK
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Pred. No. 1.
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US-08-455-970-2
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Best Local Similarity
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                                                                                                                                              Matches 483;
                                                                                                                                                                                                                                                                        TELEFAX: (415) 327-3231
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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APPLICANT:
                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 900
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 327-3400
                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US 07/960,932 FILING DATE: 14-OCT-1992 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: ENHANCED IMMUNOGENICITY USING LEUKOTOXIN TITLE OF INVENTION: CHIMERAS
                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: POTTER, ANDREW A.
                231
                                                                  171
                                                                                                       111 SFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLGTI 170
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0
                                           8
                                                                                                                                                                                                                                                                                                                                                      NAME: ROBINS, ROBERTA REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: FILING DATE: 31-MA
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                                                                                                                                                                                                                                      TOPOLOGY:
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                                                     QTAIGLTERGIVLSAPQIDKLLQKTKAGQALGSAESIVQNANKAKTVLSGIQSILGSVLA 230
                GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG
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                                        QTAIGLTERGIVLSAPQIDKLLQKTKAGQALGSAESIVQNANKAKTVLSGIQSILGSVLA
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  amino acids
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                                                                                                                                            Score 2126; DB 8;
Pred. No. 1.3e-162;
0; Mismatches 0;
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                                                                                                                                             Indels 436;
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                                                                                                                                                                                                            US-09-383-912-6
                                                                                                                                                                                 Sequence 6, Application US/09383912 GENERAL INFORMATION:
COUNTRY: USA
ZIP: 94301
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                            APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GARH-LEUKOTOXIN CHIMERAS
                                                                                                                  NUMBER OF SEQUENCES: 3
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                                                                STREET: 285 HAM:
CITY: PALO ALTO
STATE: CA
                                                                                                         ADDRESSEE:
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                                                                                          E: REED & ROBINS LLP
285 HAMILTON AVENUE,
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DLTFEKVKHNLVITNSKKEKVTIQNWFREADFAKEVPNYKATKDEKIEEIIGQNGERITS
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                                                                                         DLTFEKVKHNLVITNSKKEKVTIQNWFREADFAKEVPNYKATKDEKIEEIIGQNGERITS
                                                                                                                                                                                 \tt GDDILLDGGNGDDFIDGGKGNDLLHGGKGDDIFVHRKGDGNDIITDSDGNDKLSFSDSNLK
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; MOLECULE TYPE: protein US-09-383-912-6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: (415)327-3400
TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 926 amino acids
TYPE: amino acid
TOPOLOGY: linear
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NAME: MCCRACKEN, THOMAS
REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/383,912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION:
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608 RVHYSRGNYGALTIDATKETEQGSYTVNRFVETGKALHEVTSTHTALVGNREEKIEYRHS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
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                                                                             AASSTFDLTNVVQRIGIELDNAGNVTKTKETKIIAKLGEGDDNVFVGSGTTEIDGGEGYD 607
                                                                                                                                                       SANGIIDVSNSGKAKTQHILFRTPLLTPGTEHRERVQTGKYEYITKLNINRVDSWKITDG 547
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Pred. No. 1.3e-162;
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171 QTAIGLTERGIVLSAPQIDKLLQKTKAGQALGSAESIVQNANKAKTVLSGIQSILGSVLA 230

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US-07-779-171-12
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                                                    Query Match 59.2%;
Best Local Similarity 52.6%;
Matches 483; Conservative
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                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Potter, Andrew A.
APPLICANT: Redmond, Mark J.
APPLICANT: Hughes, Huw P.A.
TITLE OF INVENTION: ENHANCED I
TITLE OF INVENTION: PASTEURELL
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 29
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-327-7250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Robins, Roberta L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
111 SFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLGTI 170
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STREET: 545 Middlefield Road, Suite
CITY: Menlo Park
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 19
CLASSIFICATION:
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                                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
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                                                                                                                                                                                                  H: 943 amino acids
AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                   linear
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PASTEURELLA HEAMOLYTICA LEUKOTOXIN CHIMERAS
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                                                   Score 2126; DB 3;
Pred. No. 1.3e-162;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                29310-2001600
                                                                                      Length 943;
                                                    Indels 436;
                                                    Gaps
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Matches
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REFERENCE/DOCKET NUMBER: 9001-0016.10
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 327-3400
TELEFAX: (415) 327-3231
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: PALO ALTO
STATE: CALIFORNIA
COUNTRY: UNITED STATES OF AMERICA
ZIP: 94301
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-TOS
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/
FILING DATE: 14-CCT-1992
ATTORNEY/AGENT INFORMATION:
NAME: ROBINS, ROBERTA L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn Release #1.0, Version CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/455,970
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Local Similarity 52.6%;
nes 483; Conservative
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                                 SANGIIDVSNSGKAKTQHILFRTPLLTPGTEHRERVQTGKYEYITKLNINRVDSWKITDG
                                                                                                   LNKELQAERVIAITQQQWDNNIGDLAGISRLGEKVLSGKAYVDAFEEGKHIKADKLVQLD 487
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Pred. No. 1.3e-162;
0; Mismatches 0;
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US-08-455-970-10; Sequence 10, Ap; GENERAL INFORM

Sequence 10, Application US/08455970 GENERAL INFORMATION:

APPLICANT: POTTER, ANDREW A.
APPLICANT: REDMOND, MARK J.
APPLICANT: HUGHES, HUW P.A.
TITLE OF INVENTION: ENHANCED II
TITLE OF INVENTION: CHIMERAS
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:

ADDRESSEE:

REED & ROBINS HAMILTON AVENUE,

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Sequence 8, Application US/077791
GENERAL INFORMATION:
APPLICANT: Potter, Andrew A.
APPLICANT: Redmond, Mark J.
APPLICANT: Hughes, Huw P.A.
TITLE OF INVENTION: ENHANCED
TITLE OF INVENTION: PASTEUREI
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   US-07
                                                                                             INFORMATION FOR SEQ ID NO:
TOPOLOGY: li
MOLECULE TYPE:
)7-779-171-8
                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                           SEQUENCE CHARACTERISTICS:
LENGTH: 951 amino acids
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                TELEFAX: %1.706141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                       REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 29
PELECOMMUNICATION INFORMATION:
TELEPHONE: 415-327-7250
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                                                                                                                                                                                                                                               APPLICATION NUMBER: US
FILING DATE: 19911016
                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 545 Middlefield Road, CITY: Menlo Park
                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                          ZIP: 94025
                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                          California
                                                                                                                          415-327-2951
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                                linear
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                                                                                           DLTFEKVKHNLVITNSKKEKYTIQNWFREADFAKEVPNYKATKDEKIEEIIGONGERITS 514
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                                                           KQVDDLIAKGNGKITQDELSKVVDNYELLKHSKNVTNSLDKLISSVSAFTSSNDSRNVLV 574
                                                                                                                                                                                                                                                                                          AASSTFDLTNVVQRIGIELDNAGNVTKTKETKIIAKLGEGDDNVFVGSGTTEIDGGEGYD 607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KKLGYDGDNLLAEYQRGTGTIDASVTAINTALAAIAGGVSAAAA------
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                                                KQVDDLIAKGNGKITQDELSKVVDNYELLKHSKNVTNSLDKLISSVSAFTSSNDSRNVLV 907
                                                                                                                                                                                          NNQHHAGYYTKDTLKAVEEIIGTSHNDIFKGSKFNDAFNGGDGVDTIDGNDGNDRLFGGK 727
                                                                                                                                                                                                                                          RVHYSRGNYGALTIDATKETEQGSYTVNRFVETGKALHEVTSTHTALVGNREEKIEYRHS 667
                                                                                                                                                                                                                                                                                                                                       SANGIIDVSNSGKAKTQHILFRTPLLTPGTEHRERVQTGKYEYITKLNINRVDSWKITDG
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Search completed: March 2, 2001, 10:59:14 Job time: 384 sec

Query Match Best Local Similarity

59.2%; 52.6%;

Score Pred.

2126; DB 3; No. 1.3e-162;

Length

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Database sequences: 26848:
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-DB-A_Geneseq_36 -QFMT=fastan -SUFFTX=rag -GAPOP=12.000
-GAPEXT=4.000 -MINMATCH=0.100 -LOOPCL=0.000 -XADEXT=0.000
-QAPEXT=4.000 -QGAPEXT=0.050 -XGAPOP=10.000 -XADEXT=0.500
-FGAPOP=4.500 -GGAPEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-DELOP=6.000 -FGAPEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-DELOP=6.000 -DELEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-DELOP=6.000 -DELEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-TRANS=human40.cdi -LIST=45 -CALIGN=15 -MATRIX=blosum62
-TRANS=human40.cdi -LIST=45 -ALIGN=15 -MODE-LOCAL -OUTFMT=pfs
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-USER_US0930669_@CGN1_1_187 -NCPU=6 -ICPU=3 -LONGLOG -NO_XLPXY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  documentation_block:
                                                                                                                                                                                                                                                                                                                                                 Enterohaemorrhagic Escherichia coli; virulent; detection; probe; primer; hlyA gene; enterohaen haemolytic uremic syndrome; mesenteric adenitis
Claim 1; Columns 37-42; 32pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                            04-JUL-1996
                                           Entero:haemorrhagic E. coli
for probe and primer design
                                                                                                                                                                                                                                                                                                                      Escherichia coli (enterohaemorrhagic).
                                                                                                                                                                                                                                                                                                                                                                                                           Enterohaemorrhagic E.coli hlyA gene product.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R86998;
                                                                                          N-PSDB;
                                                                                                                                     Hall RH, · Xu JG
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1993-2000 Compugen Ltd
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                                                                                                                                                                                                                              1383 TAAACATAATCTTGTCATCACGAATAGCAAAAAGAGAAAAGTGACCATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1314 TAATACCGCATTGGCCGCTATTGCTGGTGGTGTGTCTGCTGCTGCAGCC. 1362
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                                                        ysAsnTyrPheGluAsnGlyTyrAspAlaArgHisAlaAlaPheLeuGlu
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seq_documentation_block:
ID R11187 standard; Protein; 323
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1608 TGTTGATAACTATGAATTGCTCAAA...CATAGCAAAAATGTGACAAACA 1654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1902 TTGGAGCTACGGCCTGCGTCCGGGTGGATCTCAGCATTGGAGCTAC...G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1702 GATTCGAGAAATGTATTAGTGGCTCCAACTTCAATGTTGGATCAAAGTTT 1751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1949 GCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1852 TCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCAAGA 1901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1752 ATCTTCTCTTCAATTTGCTAGGGGATCTCAGCATTGGAGCTACGGCCTGC 1801
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            312 uTyrMetThrSerLeuIleValAsnGlyLysAspThrTrpSerValLysG
  25 AUG-1989;
                                              24-AUG-1990;
                                                                                             07-MAR-1991
                                                                                                                                                                                                                Peptide
                                                                                                                                                                                                                                                                                                                                                                                                     Plasmid pBTA859-encoded TraTp-multiple LHRH analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                    22-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R11187;
                                                                                                                                         WO9102799-A
                                                                                                                                                                                                                                                            Peptide
                                                                                                                                                                                                                                                                                                                                                  TraT protein;
                                                                                                                                                                                                                                                                                                                                immunological
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGGT.....CAAAATGGCGAGCGGATCACCTCAAAGCAAGTTGATGAT 1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hrProGlyGluGluValArgGlu.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTTA...GATAAGTTAATCTCATCTGTAAGTGCATTTACCTCGTCTAAT 1701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTTATCGCAAAAGGTAACGGCAAAATTACCCAAGATGAGCTATCAAAAGT 1607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gAlaValAlaIleThrGlnGlnHisTrpAspGluLysIleGlyGluLeuA 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspSerLeuSerLeuLeuAlaAspPheSerArgGlnHisAlaValGluAr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGC 1851
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 lnValPheAspProGlnLysGlyThrIleAspLeuSerThrGlyAsnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rLeuGluAsnGlyGlyLeuLeuGluAlaGlnProLysGluPheThrGlnG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 lyIleLysAsnHisLysGlyValTyrAspTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .....ArgLysGlnSerGlyLysTyrGl 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /SIDS1/gcgdata/geneseq/geneseqp/AA1991.DAT:R11187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ....GlyLysAlaTyrIle.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                Leutinizing hormone releasing castration.
89AU-0005979
                                              90WO-AU00373
                                                                                                                                                                                     /label= 8 LHRH analogues in tandem repeat
                                                                                                                                                                                                                                   /label= TraTp signal
                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .....AsnTy 252
                                                                                                                                                                                                                                                                                                                                                           hormone;
                                                                                                                                                                                                                                                                                                                                                           fusion
                                                                                                                                                                                                                                                                                                                                                                                                        fusion
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                                                                                                                                                                                                                                                                                                                                                           protein;
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alignment_scores:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-306-689-12 x R11187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1353 TGCTGCAGCCGATTTAACATTTGAAAAAGTTAAACATAATCTTGTCATCA 1402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1303 GTTACTGCAATTAATACCGCATTGGCCGCTATTGCTGGTGGTGTGTCTGC 1352
                                                                                                                                                                                                                                                                                                                                                                                          1453 GATTTTGCTAAAGAAGTGCCTAATTATAAAGCAACTAAAGATGAGAAAAT 1502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1403 CGAATAGCAAAAAAGAGAAAGTGACCATTCAAAACTGGTTCCGAGAGGCT 1452
                                      1653 CAGCTTAGAT.....
                                                                                                                                                                                                                  1553 ATGATCTTATCGCAAAAGGTAACGGCAAAATTACCCAAGATGAGCTATCA 160;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      plasmid pBTA859 is a TraTp-LHRH analogue fusion in which 8 copies of an LHRH analogue have been inserted between amino acids 200 and 201 of TraTp (Ogata R.T. et al., (1982) J.Bacteriol. 151:819-827). The plasmid was constructed by two successive additions of DNA coding for a dimer of LHRH analogue into the Smal site of pBTA862 (see Q11020) which all ready carries four copies of the LHRH sequence. After transformation, colonies with 8 LHRH molecules were identified. Fusion proteins with multiple inserts generated a higher anti-LHRH response (as measured by the binding of (125)I-LHRH at a serum dilution of 1:2000 final) than constructs with a single insert, in outbred mice and dogs. The fusion proteins can be used to inhibit reproductive functions in vertebrates.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fusion proteins comprising LHRH analogue and TraTp (analogue) useful in vaccine for inhibition or control of reproduction in vertebrates, esp. domestic animals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1991-087282/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 1; Fig 2 and 5; 53pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (BIOT-) BIOTECHN AUST PTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    See also Q10995, Q10997-Q11000, Q11014-Q11020.
                                                                                                                                                                            74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25 rThrAlaIleLys.....LysArgAsnLeuGluValL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9 ValAlaLeuValSerSerThrLeuAlaLeuSerGlyCysGlyAlaMetSe
....MetAspLeuProGluSerGlnGlyTrpLeuAsnArgGlyTyrGluG 119
                                                                                                                                                                                                                                                                                                         CGAAGAAATCATCGGTCAAAATGGCGAGCGGATCACCTCAAAGCAAGTTG 1552
                                                                                                                                                                                                                                                                                                                                                 SerGluArgThrValPheLeuGlnIleLysAsnThrSerAspLysAspMe
                                                                                                                                                                                                                                                                                                                                                                                                                                        ysThrGlnMetSerGluThrIle.....TrpLeuGluProAla
                                                                                   TyrTyrLeuIleGlnAlaAsnValLeuLysAlaAspLys
                                                                                                                               AAAGTTGTTGATAACTATGAATTGCTCAAACATAGCAAAAATGTGACAAA 1653
                                                                                                                                                                                                                                                              tSerGlyLeuGlnGly.....
                                                                                                                                                                          spAlaValLysAlaLysGlyTyrGlnValValThrSerProAspLysAla
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32.381
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.663		1695
119	lyAlaAlaValGlyAlaAlaLeuGlyAlaGlyIleThrGlyTyrThrSer	135
696	GATTCGAGAAATGTATT	1718
136	AsnSerAlaGlyAlaThrLeuGlyValGlyLeuAlaAlaGlyLeuValGl	152
719	CCAACTTCAATGTTGGATCAAAGTTTATCTT	1756
152	yMetAlaAlaAspAlaMetValGluAspValAsnTyrThrMetIleThrA	169
757	CTTCAATTTGCT	1770
169	spValGlnIleAlaGluArgThrLysAlaThrValThrThrAspAsnVal	185
.771	- ⊅	1784
186	AlaAlaLeuArgGlnGlyThrSerGlyAlaLysIleGlnThrSerGluHi	202
785	CGGTTCTCAAGATTGGAGCTACG	1834
202	rpSerTyrG	216
835	GCCTGCGTCCGGGTGGCCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCCT	1884
216	-	229
885	GGATCTCA	1934
230	GlyGluHisTrpSerTyrGlyLeuArgProGlyGl	241
935	- 1-3	1984
241	uHisTrpSerTyrGlyLeuArgProGly	255
.985		2034
255	yrGlyLeuArgProGlyGluHisTrpSerTyrGlyLeuArg	268
035	CCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 2079	
269	ProGlyGluHisTrpSerTyrGlyLeuArgProGly 280	

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Run
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Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
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score greater
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re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.
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1: /cgn2_6/ptodata/2,
2: /cgn2_6/ptodata/2,
3: /cgn2_6/ptodata/2,
4: /cgn2_6/ptodata/2,
5: /cgn2_6/ptodata/2,
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Match
        174772 seqs, 17957048 residues
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3591
1 MATVIDRSQHWSYGI
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Copyright (c) 1993 - 2000 Compugen Ltd.
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/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5CTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
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US-08-387-156-10
US-08-387-156-8
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US-08-878-748-10
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US-08-88-7-156-8
US-08-124-491-8
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Sequence 16, Appl Sequence 10, Appl Sequence 11, Appl Sequence 12, Appl Sequence 2, Appl Sequence 2, Appl Sequence 2, Appl Sequence 2, Appl Sequence 6, Appl Sequence 14, Appl Sequence 17, Appl Sequence 17, Appl Sequence 17, Appl Sequence 17, Appl Sequence 2, Appl Sequence 3, Appl Sequence 4, Appl Sequence 4, Appl Sequence 4, Appl Sequence 4, Appl Sequence 5, Appl Sequence 6, Appl Sequenc
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61 HWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPGGSSFPKTGAKKI

Qy 1 MATVIDRSQHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGGSQ 	Query Match 100.0%; Score 3591; DB 2; Length Best Local Similarity 100.0%; Pred. No. 2.9e-263; Matches 695; Conservative 0; Mismatches 0; Indels	US-08-694-865-16 Sequence 16, Application US/08694865 Sequence 16, Application US/08694865 Patent No. 5837268 GENERAL INFORMATION: APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G. TITLE OF INVENTION: GORH-LEUKOTOXIN CHIMERAS NUMBER OF SEQUENCES: 34 CORRESPONDENCE ADDRESS: ADDRESSEE: REED & ROBINS LLP STREET: 285 HAMILTON AVENUE, SUITE 200 STATE: CA COUNTRY: USA ZIP: 94301 COMPUTER: LIBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PATENTION NUMBER: US/08/MS-DOS SOFTWARE: PATENTION NUMBER: US/08/MS-DOS SOFTWARE: PATENTION NUMBER: US/08/694,865 FILING DATE: 09-AUG-1996 CLASSIFICATION UMBER: US/08/694,865 FILING DATE: 09-AUG-1996 CLASSIFICATION UMBER: 9001-0016.22 TELEPHONE: (415)327-3400 TELEPHONE: (415)327-3231 INFORMATION FOR SEQ ID NO: 16: SEQUENCE CHARACTERISTICS: LENGTH: 699 amino acids TYPE: amino acids TYPE: amino acids TYPE: protein	ALIGNMENTS	29 1650.5 46.0 1403 1 US-07-908-253-3 30 1650.5 46.0 1403 2 US-08-594-865-17 31 1650.5 46.0 1403 2 US-08-535-837-3 32 1650.5 46.0 1403 2 US-08-535-837-3 32 1650.5 46.0 1403 3 US-08-735-805A-80 35 1644.5 45.8 1334 5 5476657-1 33 1644.5 45.8 1334 5 5476657-1 34 1524 42.4 934 1 US-08-215-805A-80 35 1264.5 35.2 956 3 US-08-772-270A-8 36 938.5 26.1 1049 3 US-08-772-270A-11 37 938.5 26.1 1049 3 US-08-772-270A-11 38 848.5 23.6 1022 3 US-08-772-270A-2 39 403 11.2 758 1 US-08-258-188-2 40 403 11.2 758 1 US-08-526-813-2 41 403 11.2 758 1 US-08-526-813-2 42 368 10.2 84 1 US-07-690-9330-47 43 290 8.1 49 1 US-08-878-748-4 45 290 8.1 49 2 US-08-878-748-4 45 290 8.1 49 2 US-08-878-748-4 55
SGSQDWSYGLRPGGSQ 60	Length 699; Indels 0; Gaps			Sequence 3, Appli Sequence 17, Appli Sequence 3, Appli Sequence 17, Appli Sequence 10, Appli Patent No. 5476657 Sequence 8, Appli Sequence 11, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 4, Appli

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RESULT 2
US-09-124-491-16
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/694,865
FILING DATE: 09-AUG-1996
APPLICATION NUMBER: US 08/387,156
'FILING DATE: 10-FEB-1995
                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: GNRH-LEUKOTOXIN CHIMERAS NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: POTTER, ANDREW APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                                                            ADDRESSEE: REED & ROBINS LLP
STREET: 285 HAMILTON AVENUE,
CITY: PALO ALTO
STATE: CA
COUNTRY: USA
                                                                                FILING DATE: CLASSIFICATION:
                                                                                                                APPLICATION NUMBER:
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FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 9001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
TELEPAX: (415)327-3231
INFORMATION FOR SEQ ID NO: 16:
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Best Local S
Matches 695
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APPLICATION NUMBER: US 0'
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
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TYPE: amino acid
TOPOLOGY: linear
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les 695; Conserv
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Best Local Similarity
Matches · 534; Conserva
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APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
FILING DATE: 10-FEB-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 544 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (415) 617-8999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: POTTER, ANDREW A APPLICANT: REDMOND, MARK J. APPLICANT: HUGHES, HUW P.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: GRRH-LEUKOTOXIN CHIMERAS NUMBER OF SEQUENCES: 28
                                                                                                                    111 SFPKTGAKKIILYIPQNYQYDTEQCNGLQDLVKAAEELGIEVQREERNNIATAQTSLGTI 170
248
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REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 90
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
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           TKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESYAERF 410
                                                         TLGDKLKNIGGLDKAGLGLDVISGLLSGATAALVLADKNASTAKKVGAGFELANQVVGNI
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Pred. No. 8.9e-192;
0; Mismatches 0;
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 10,
                                                                                                                                                            Best Local Similarity Matches 534; Conserv
                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                      TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/6:

PILING DATE: 09-AUG-1996

CLASSIFICATION: 424

ATTORNEY/AGENT INFORMATION:

NAME: MCCRACKEN, THOMAS P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327.3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS
                                                                                                                 111 SFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLGTI 170
231 GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG
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                                                                                                                                                                                                                                                                                                                                                                                                REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE:
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                                                                                                                                                                                                                                                                                          LENGTH:
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                                                                                                    SFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLGTI 67
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5837268
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                                                                                                                                                                                                                                                                                                                                                                                              38,548
                                                                                                                                                          Score 2642.5; DB 2
Pred. No. 8.9e-192;
0; Mismatches 0;
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APPLICATION NUMBER: US 08/387,156
FILING DATE: 10-FEB-1995
APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION UMBER: US 07/779,171
APPLICATION UMBER: US 07/779,171
FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
ANAME: BOBBING BORBERA 1
                                                                  REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
TELEPAX: (415) 327-3231
INFORMATION FOR SEQ ID NO: 10:
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APPLICANT: REDMOND, MARK J.
APPLICANT: HUGHES, HUW P.A.
TITLE OF INVENTION: GARH-LEUKOTOXIN CHIMERAS
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MEDIUM TYPE: Floppy disk
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                                                 SEQUENCE CHARACTERISTICS:
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CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0,
                                                                                                                                                          NAME: ROBINS, ROBERTA L. REGISTRATION NUMBER: 33,208
TOPOLOGY:
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                                LENGTH:
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Patent No. 6022960
GENERAL INFORMATION:
APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GORRH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ANDRESCEE: BEED & BORNE IID
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Best Local
                            CLASSIFICATION: PRIOR APPLICATION DATA:
                                                                         SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/124,49:
                                                                                                                 COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

COMPUTER: IBM PC COMPATIBLE

OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                            STREET: 285 HAM:
CITY: PALO ALTO
STATE: CA
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APPLICATION NUMBER: US 0 FILING DATE: 09-AUG-1996
                                                        FILING DATE:
                                                                                                                                                                                  ZIP:
                                                                                                                                                                                                 COUNTRY:
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Pred. No. 8.9e
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APPLICATION NUMBER:

US 08/387,156

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RESULT 7
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                                         Sequence 8, Application Patent No. 5723129 GENERAL INFORMATION:
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Best Local Similarity
Matches 534; Conserv
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INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 544 amino acids
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ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 9001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
              APPLICANT:
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TYPE: amino acid
TOPOLOGY: linear
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nilarity 99.4%;
Conservative
POTTER, ANDREW A. REDMOND, MARK J. HUGHES, HUW P.A.
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Pred. No. 8.9e
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Matches 534
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TYPOLOGY: linc-
WOLECUTE
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REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
A17-8099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/387,156
FILING DATE: 10-FEB-1995
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
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OPERATING SYSTEM:
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                       GVISTILQYSKQAMFEHVANKIHNKIVEWEKNNHGKNYFENGYDARYLANLQDNMKFLLN
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SYSTEM: PC-DOS/MS-DOS
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415) 327-3231
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Pred. No. 4.9e-175;
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8 8	608 RVHYSRGNYGALTIDATKETEQGSYTVNRFVETGKALHEVTSTHTALVGNREEKIEYRHS 66
B 4	68 NNQHHAGYYTKDTLKAVEEIIGTSHNDIFKGSKFNDAFNGGDGVDTIDGNDGNDRLFGGK 7
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B &	455 DLTFEKVKHNLVITNSKKEKVTIQNWFREADFAKEVPNYKATKDEKIEEIIGQNGERITS 514
2 6	15 KOVIDIT JAKGNGK TTODEL SKYVDNYBIT KHSKNYTNSI DKI I SSYSAFTSSNINSBNYI V
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ОУ	635 WSYGLRPGGS 644 968 WSYGLRPGGS 977
RESULT US-08-0 ; Seque	SULT 8 -08-694-865-8 Sequence 8, Application US/08694865 Patent No. 5837268
 	ENERAL INFORMATION: POTTER, ANDREW A. APPLICANT: MANUS JOHN G.
	NVENTION SEQUENCE
	CORRESPONDENCE ADDRESS: ADDRESSEE: REED & ROBINS LLP STRRETT 285 HAMILTON AVENUE. SUITTE 200
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	COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
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	694,865
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; SEQUENCE CHARACTERISTICS:
; LENGTH: 977 amino acids
; TYPE: maino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
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Pred. No. 4.9e-175;
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                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US 08/387,156
FILING DATE: 10-FEB-1995
APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
ATTORNEY/ACENT INFORMATION:
NAME: ROBINS, ROBERTA L.
                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ ID NO: 8:
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APPLICANT:
                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 977 amino acids
                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
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CORRESPONDENCE ADDRESS:
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APPLICANT: HUGHES, HUW P.A.
TITLE OF INVENTION: GRRH-LE
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STATE: CALIFORNIA
                                                                                                                                                                                                                                                                   TYPE: amino acid
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QTAIGLTERGIVLSAPQIDKLLQKTKAGQALGSAESIVQNANKAKTVLSGIQSILGSVLA 230
                                                                                                     SFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLGTI 170
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Pred. No. 4.9e-175;
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                                                                           ; Sequence 8, Application US/09124491; Patent No. 6022960; GENERAL INFORMATION: APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G. TITLE OF INVENTION: GORH-LEUKOTOX NUMBER OF SEQUENCES: 34
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US-09-124-491-8
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                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS LLP
STREET: 285 HAMILTON AVENUE,
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           CITY: PALO ALTO
STATE: CA
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Query Match Best Local Similarity 55.1%; Pred. No. 4.9e-175; Indels 436; Gaps 1: Matches 534; Conservative 0; Mismatches 0; Indels 436; Gaps 1: Qy 111 SPPKTGAKKIILYIPONYOYDTEOGNGLODLVKAAEELGIEVQREERNNIATAQTSLGTI 170 [1111111111111111111111111111111111	COMPUTER READABLE FORM: COMPUTER: Floppy disk COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/124,491 FILING DATE: PRIOR APPLICATION NUMBER: US/09/124,865 FILING DATE: OPERATE: PATENTIN RELEASE #1.0 CLASSIFICATION NUMBER: US/09/124,865 FILING DATE: 09-AUG-1996 APPLICATION NUMBER: US/09/307,156 FILING DATE: 10-FEB-1995 PRIOR APPLICATION NUMBER: US/07/960,932 FILING DATE: 14-OCT-1992 PRIOR APPLICATION NUMBER: US/07/79,171 FILING DATE: 14-OCT-1992 PRIOR APPLICATION NUMBER: US/07/79,171 FILING DATE: 14-OCT-1992 PRIOR APPLICATION NUMBER: US/07/79,171 APPLICATION NUMBER: US/07/79,171 INTORNEY/AGENT INFORMATION: REFERENCE/DOCKET NUMBER: 9001-0016.22 TELECOMMUNICATION HOPER: 38,448 REFERENCE/DOCKET NUMBER: 39,448 REFERENCE/DOCKET NUMBER: 39,048 REFERENCE/DOCKET NUMBER: 39,048
RESULT 11 US-08-455-970A-12 IUS-08-455-970A-12 Sequence 12, Application US/08455970A Patent No. 5708155 PARENT NORMATION: APPLICANT: POTTER, ANDREW A. APPLICANT: POTTER, ANDREW A. APPLICANT: HUGHES, HUW P.A. TITLE OF INVENTION: ENHANCED IMMUNOGENICITY USING LEUKOTOXIN TITLE OF INVENTION: CHIMERAS NUMBER OF SEQUENCES: 15 CORRESPONDENCE ADDRESS: ADDRESSEE: REED 4 ROBINS STREET: 285 HAMILTON AVENUE, SUITE 200 CITY: PALO ALTO STATE: CALLFORNIA COUNTRY: UNITED STATES OF AMERICA COUNTRY: UNITED STATES OF AMERICA COUNTRY: UNITED STATES OF AMERICA COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER READABLE FORM: OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.25 CLASSIFICATION DATA: APPLICATION NUMBER: US/08/455,970A FILING DATE: 11-COT-1992 FILING DATE: 11-COT-1992 ATTORNEY/AGENT INFORMATION: NAME: ROBINS, ROBERTA L. REGISTRATION UNBER: 33,208 REFERENCE/DOCKET NUMBER: 33,208 REFERENCE/DOCKET NUMBER: 3001-0016.10 TELEDHONE: (415) 327-3400	Qy 455 458 SANGIIDVSNSGKAKTQHILFRTPLLTPGTEHRERVQTGKYEYITKLNINRVDSWKITDG 547 Qy 455 454 454 Db 548 AASSTEDLTNVVQRIGIELDNAGNVTKTKETKIIAKLGEGDDNVEVGSGTTEIDGGEGYD 607 Qy 455 454 Db 608 RVHYSRGNYGALTIDATKETEQGSYTVNREVETGKALHEVTSTHTALVGNREEKIEYRHS 667 Qy 455 454 Db 668 NNQHHAGGYTKDTLKAVEBIIGTSHNDIFKGSKFNDAFNGGDGVDTIDGNDGNDRLFGGK 727 Qy 455 454 Db 728 GDDILDGGNGDDFIDGGKGNDLLHGGKGDDIFVHRKGDGNDIITDSDGNDKLSFSDSNLK 78 Db 728 GDDILDGGNGDDFIDGGKGNDLLHGGKGDDFAKEVPNYKATKDEKIEBIIGQNGERITS 514 Db 728 GDDILAGGNGKITQDELSKVYDNYERLKENYTUSLAKEVPNYKATKDEKIEBIIGQNGERITS 847 Qy 455 KQYDDLIAKGNGKITQDELSKYVDNYELLKHSKNYTNSLDKLISSYSAFTSSNDSRNVLV 574 Db 728 KQYDDLIAKGNGKITQDELSKYVDNYELLKHSKNYTNSLDKLISSYSAFTSSNDSRNVLV 907 APTSMLDQSLSSLQPARGSQHWSYGLKPGGSGODWSYGLRPGGSSQHWSYGLRPGGSSQHWSYGLRPGGSSQHWSYGLRPGGSSQHWSYGLRPGGSSQHWSYGLRPGGSSQHWSYGLRPGGSSQHWSYGLRPGGSSQHWSYGLRPGGSSQHWSYGLRPGGSSQHWSYGLRPGGSSQHWSYGLRPGGSSQHWSYGLRPGGSSQDWSYGLRPGGSSQDWSYGLRPGGSSQDWSYGLRPGGSSQDWSYGLRPGGSSQDWSYGLRPGGSSQDWSYGLRPGGSSQDWSYGLRPGGSSQDWSYGLRPGGSSQDWSYGLRPGGS

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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 936 anino acids
TYPE: amino acid
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                                             DLTFEKVKHNLVITNSKKEKVTIQNWFREADFAKEVPNYKATKDEKIEEIIGONGERITS 514
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GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG
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                                                                                              GDDILDGGNGDDFIDGGKGNDLLHGGKGDDIFVHRKGDGNDIITDSDGNDKLSFSDSNLK 787
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US-07-777-715-9
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US-07-777-715-9
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: GENERAL INFORMATION:

: APPLICANT: Potter,

APPLICANT: Campos,

APPLICANT: Hughes,
                                                                                                                                                                                                                                                                                                     Query Match 59.3%;
Best Local Similarity 52.6%;
Matches 484; Conservative
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: PAtentin Release #1.0, Version #1.25
SOFTMARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/77,715
FILIUM DATE: 19911016
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: ROBINS, ROBERTA L.
REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 29310-2001320
TELEPHONE: 415-327-7250
TELEPHONE: 415-327-7250
TELEPAX: 445-327-2951
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TELEX: 706141
INFORMATION FOR SEQ ID NO:
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ADDRESSEE: Morrison
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COMPUTER: II
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STREET: 545 Middlefield Road,
CITY: Menlo Park
STATE: California
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                                                                                                                      GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG
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Hughes, Huw P.A
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Pred. No. 1.1e-152;
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/170,126
FILING DATE: 20-DEC-1993
'CLASSIFICATION: 530
                                                                                                                                                                                                           APPLICANT: HUGHES, HUW P.A.
TITLE OF INVENTION: CYTOKIN
TITLE OF INVENTION: THEREOF
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                  APPLICANT:
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                                                                                                                            STREET: 635 BRYANT STREET
CITY: PALO ALTO
STATE: CALIFORNIA
COUNTRY: UNITED STATES OF
ZIP: 94301
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635 BRYANT STREET
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Best Local Similarity
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INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
1.ENGTH: 1069 amino acids
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APPLICATION NUMBER: US 07,
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07,
ATTORNEY/AGENT INFORMATION:
NAME: ROBINS, ROBERTA L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REGISTRATION NUMBER: 33,208
REFERENCE/FOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8899
TELEPAX: (415) 327-3231
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NNQHHAGYYTKDTLKAVEEIIGTSHNDIFKGSKFNDAFNGGDGVDTIDGNDGNDRLFGGK 727
                                               RVHYSRGNYGALTIDATKETEQGSYTVNRFVETGKALHEVTSTHTALVGNREEKIEYRHS
                                                                                                                                               SANGIIDVSNSGKAKTQHILFRTPLLTPGTEHRERVQTGKYEYITKLNINRVDSWKITDG
                                                                                                                                                                                             LNKELQAERVIAITQQQWDNNIGDLAGISRLGEKVLSGKAYVDAFEEGKHIKADKLVQLD
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                                                                                               AASSTFDLTNVVQRIGIELDNAGNVTKTKETKIIAKLGEGDDNVFVGSGTTEIDGGEGYD
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52.6%;
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Pred. No. 1.1e-152;
0; Mismatches 0;
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-GI III nsr		APPLICATION NUMBER: US 07/571,301 ATTORNEY/AGENT INFORMATION: NAME: ROBINS, ROBERTA L. REGISTRATION NUMBER: 33,208 REFERENCE/DOCKET NUMBER: 9000-0013.21 TELECOMMUNICATION INFORMATION: TELEPHONE: (415) 617-8999 TELEPHONE: (415) 337-3231	> >	COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.25 CORRENT APPLICATION DATA:	CORRESPONDENCE ADDRESS: ADDRESSEE: REED & ROBINS STREET: 635 BRYANT STREET CITY: PALO ALTO STATE: CALIFORNIA COUNTR: UNITED STATES OF AMERICA COUNTRY: 94301	US-08-954-418-4 US-08-954-418-4 ; Sequence 4, Application US/08954418 ; Patent No. 6096320 ; GENERAL INFORMATION: APPLICANT: POTTER, ANDREW APPLICANT: HUGHES, HUW P.A. ; APPLICANT: HUGHES, HUW P.A. ; TITLE OF INVENTION: CYTOKINE-CYTOTOXIN GENE FUSIONS AND USES ; TITLE OF INVENTION: THEREOF ; NUMBER OF STORIENCES. 6	Db 728 GDDILDGGNGDDFIDGGKGNDLLHGGKGDDIFVHRKGDGNDIITDSDGNDKLSFSDSNLK 787 Qy 455 DLTFEKVKHNLVITNSKKEKVTIONWFREADFAKEVPNYKATKDEKIEEIIGONGERITS 514
US-07-908-253-2 Sequence 2, Application US/07908253 Patent No. 5534256 PATENT NO. 5534256 GENERAL INFORMATION: APPLICANT: HARLAND, RICHARD J. TITLE OF INVENTION: HAEMOPHILUS SOMNUS OUTER MEMBRANE TITLE OF INVENTION: PROTEIN EXTRACT ENRICHED WITH IRON-REGULATED PROTEINS UNUMBER OF SEQUENCES: 6 CORRESPONDENCE ADDRESS: ADDRESSEE: ROBERTA L. ROBINS STREET: 635 BRYANT STREET CITY: PALO ALTO	PTS	Qy 455 DLTFEKVKHNLVITNSKKEKVTIQNWFREADFAKEVPNYKATKDEKIEEIIGQNGERITS 514	455	455608 RVHYSRGNYGALTIDATKETEQGSYTVNRFVETGKALHEVTSTHTALVGNREEKIEVRHS	Db 488 SANGIIDVSNSGKAKTQHILFRTPLLTPGTEHRERVQTGKYEYITKLNINRVDSWKITDG 547 Qy 455 454 Db 548 AASSTFDLTNVVQRIGIELDNAGNVTKTKETKIIAKLGEGDDNVFVGSGTTEIDGGEGYD 607	411 REGISCONLIAEIQROS GILDAS VIALNIALAGA INGOVSAAAAA	68 QTAIGLTERGIVLSAPQIDKLLQKTKAGQALGSAESIVQNANKAKTVLSGIQSILGSVLA 231 GMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLG

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APPLICATION NUMBER: US/07/908,
ETILING DATE: 1920702
CLASSIFICATION: 420
ATTORNEY/AGENT INFORMATION:
NAME: ROBINS, ROBERTA L.
REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 9000-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 517-8999
TELEPHONE: (415) 327-3231
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 926 amino acids
TYPE: AMINO ACID
TOPOLOGY: 110001
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Best Local Similarity 52.6
Matches 483; Conservative
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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907	KOVDDLIAKGNGKITQDELSKVVDNYELLKHSKNVTNSLDKLISSVSAFTSSNDSRNVLV 907	848	DЪ
574	515 KQVDDLIAKGNGKITQDELSKVVDNYELLKHSKNVTNSLDKLISSVSAFTSSNDSRNVLV	515	Ωу
847	03 -	788	DЪ
514	DLTFEKVKHNLVTINSKKEKVTIQNWFREADFAKEVPNYKATKDEKIEEIIGQNGERITS	455	Qy
787	728 GDDILDGGNGDDFIDGGKGNDLLHGGKGDDIFVHRKGDGNDIITDSDGNDKLSFSDSNLK	728	Db
454		455	Qy
727	NNQHHAGYYTKDTLKAVEEIIGTSHNDIFKGSKFNDAFNGGDGVDTIDGNDGNDRLFGGK 727	668	Дb
454		455	Qy
667	608 RVHYSRGNYGALTIDATKETEQGSYTVNRFVETGKALHEVTSTHTALVGNREEKIEYRHS 667	809	Db

Search completed: March ·2, 2001, 10:54:48 Job time: 613 sec

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seq_documentation_block:
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Sequence
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Database sequences: 174772
Database length: 17957048
Search time (sec): 62.480000
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Query: US-09-306-689-12
Query length: 2088
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-DB=15sued_patents_AA -QFMT_fastan -SUFFIX=rai -GAPOP=12.000
-GAPEXT=4.000 -MINARTCH=0.100 -LOOPCL=0.000 -LOOPEXT=0.000
-QGAPOP=4.500 -QGAPEXT=0.050 -XGAPOP=10.000 -XGAPEXT=0.500
-FGAPOP=6.000 -FGAPEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-FGAPOP=6.000 -FGAPEXT=7.000 -YGAPOP=10.000 -YGAPOP=10.000
-DELOP=6.000 -DELEXT=7.000 -START=1 -MATRIX=blosum62
-TRANS=human40.cdi -LIST=45 -DOCALIGN=20 -THR_SCORE=PCt
-THR_MAX=100 -THR_MIN-0 -ALIGN=15 -MODE=LOCAL -OUTFMT=pfs
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TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                  SOFTWARE: Patentin Rela
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
                          ATTORNEY/AGENT INFORMATION:
NAME: Garrett-Wackowski,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: HALL, Robert APPLICANT: XU, Jian Guo
                                                                                                                                                                 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0,
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CITY: San Francisco
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                                                                                                                                                                                                                                                                                                                         COUNTRY:
REGISTRATION NUMBER:
                                                                   CLASSIFICATION: 435
                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
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                  Garrett-Wackowski,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A NEW AND DISTINCTIVE DNA SEQUENCE OF E. Coli 0157:H7 AND ITS USE FOR THE RAPID, SPECIFIC DETECTION OF 0157:H7 AND OTHER
                                                                                                                     US/08/258,188
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US-09-306-689-12 x US-08-258-188-2
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TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                964 GCACTTGTACTTGCAGATAAAAATGCTTCAACAGCTAAAAAAGTGGGTGC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               67
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 SerPheIleLeuGlyAsnSerAspAlaHisThrGlyThrLysAlaAlaAl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE:
                                                                                                                                                                                                                TAAACATAATCTTGTCATCACGAATAGCAAAAAAGAGAAAAGTGACCATTC 1432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCAGAATATCAGCGGGGAACAGGGACTATTGATGCATCGGTTACTGCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGCATTTGCCGGTATTGCCGATAAATTTAATCATGCAAAAAGTTTAGAGA 1213
                                                                 ysAsnTyrPheGluAsnGlyTyrAspAlaArgHisAlaAlaPheLeuGlu
                                                                                                                  AAAACTGGTTCCGAGAG.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AlaAlaPheHisLysGluThrGlyAlaIleAspAlaAlaLeuThrThrIl
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                                                                                                                                                               lAlaGluLysPheAlaAlaArgIleAsnGluTrpGluLysGluHisGlyL 184
                                                                                                                                                                                                                                                                  ThrIieSerGlyIleLeuGluAlaSerLysGlnAlaMetPheGluHisVa
                                                                                                                                                                                                                                                                                                                 .....GATTTAACATTTGAAAAGT 1382
                                                                                                                                                                                                                                                                                                                                                                  laSerLeuIleGlyAlaProIleSerMetLeuValSerAlaLeuThrGly 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   eAsnThrValLeuSerSerValSerAlaGlyValSerAlaAlaSerSerA 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           erGlnTyrIleLeuAlaGlnArgMetAlaGlnGlyLeuSerThrThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Quality:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
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             GCTGATTTTGCTAAAGAAGTGCCTAATTATAA 148:
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                                                                                                                                                                                                                                                                                                                                       PATENT INVENTION: A New and Distinctive DNA Sequence of E.

PATENT NO. 5756293

TITLE OF INVENTION: coli 0157:H7 and its Use for the Rapid, Sensitive and
TITLE OF INVENTION: Specific Detection of 0157:H7 and Other Enterohemorrhagic
TITLE OF INVENTION: E. coli
NUMBER OF SEQUENCES: 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/08526813 Patent No. 5756293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Hall, Robert H.
APPLICANT: Xu, Jian Guo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1949 GCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1802
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1902 TTGGAGCTACGGCCTGCGTCCGGGTGGATCTCAGCATTGGAGCTAC...G 1948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1702 GATTCGAGAAATGTATTAGTGGCTCCAACTTCAATGTTGGATCAAAGTTT 1751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1608 TGTTGATAACTATGAATTGCTCAAA...CATAGCAAAAATGTGACAAACA 1654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   246
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                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   312 uTyrMetThrSerLeuIleValAsnGlyLysAspThrTrpSerValLysG 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1852 TCTAGCCAGCATTGGAGCTACGGCCTGCCCCTGGCAGCGGTAGCCAAGA 1901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    297
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CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                   COMPUTER: JBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                               STREET:
                                                                                                                                                                                                                                                            ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hrProGlyGluGluValArgGlu.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGC 1851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lnValPheAspProGlnLysGlyThrIleAspLeuSerThrGlyAsnVal 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTATCGCAAAAGGTAACGGCAAAATTACCCAAGATGAGCTATCAAAAGT 1607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    laGlyIleThrArgAsnAlaAspArgSerGlnSer......
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gAlaValAlaIleThrGlnGlnHisTrpAspGluLysIleGlyGluLeuA 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCAACTAAA......GATGAGAAAATCGAAGAAATCA 1513
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerSerValLeuThrPheIleThrProThr......
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rLeuGluAsnGlyGlyLeuLeuGluAlaGlnProLysGluPheThrGlnG
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                                                                                                                                                            94111-3834
                                                                                                                                                                                                                                    San Francisco
                                                                                                                                                                                                              California
                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               295
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    alignment_block:
US-09-306-689-12 x US-08-526-813-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Align seg 1/1 to: US-08-526-813-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (415) 576-0300 INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1214
1383 TAAACATAATCTTGTCATCACGAATAGCAAAAAAGAGAAAAGTGACCATTC 1432
                                                                                                                                                                                                                                                                                                                                                                                                                      1264 GCAGAATATCAGCGGGAACAGGGACTATTGATGCATCGGTTACTGCAAT 1313
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                                                                                                                                                                                                                                                                                                                 1314 TAATACCGCATTGGCCGCTATTGCTGGTGTGTGTGTGCTGCTGCAGCC. 1362
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1064 CTTCTTACATTTTAGCCCAACGTGTTGCAGCAGGTTTATCTTCAACTGGG 1113
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                                              151 ThrIleSerGlyIleLeuGluAlaSerLysGlnAlaMetPheGluHisVa
                                                                                                                                                    134 laSerLeuIleGlyAlaProIleSerMetLeuValSerAlaLeuThrGly 150
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LENGTH: 758 amino acids
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TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 14-JUN-1994
ATTORNEY/AGENT INFORMATION:
NAME: Garrett-Wackowski,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                     eAsnThrValLeuSerSerValSerAlaGlyValSerAlaAlaSerSerA 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        erTyrSerGluArgPheLysLysLeuAsnTyrGluGlyAspAlaLeuLeu 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTTATGCCGAACGCTTTAAAAAATTAGGCTATGACGGAGATAATTTATTA 1263
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Ratio:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
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                                                                                                  .....GATTTAACATTTGAAAAAGT 1382
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seq_documentation_block: seq_name: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:PCT-US95-08554-2 Sequence 2, Application PC/TUS9508554 GENERAL INFORMATION: 1450 1482 1949 GCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAGC 1983 1902 TTGGAGCTACGGCCTGCGTCCGGGTGGATCTCAGCATTGGAGCTAC...G 1852 TCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCAAGA 1903 1608 TGTTGATAACTATGAATTGCTCAAA...CATAGCAAAAATGTGACAAACA 1654 APPLICANT: HALL, Robert H.
APPLICANT: XU, Jian Guo
TITLE OF INVENTION: A NEW AND DISTINCTIVE DNA SEQUENCE OF E.
TITLE OF INVENTION: COLI O157:H7 AND ITS USE FOR THE RAPID, SENSITIVE AND
TITLE OF INVENTION: SPECIFIC DETECTION OF O157:H7 AND OTHER ENTEROHEMORRHAGIC
TITLE OF INVENTION: E. COLI
NUMBER OF SEQUENCES: 29
CORRESPONDENCE ADDRESS: 1752 ATCTTCTCTTCAATTTGCTAGGGGATCTCAGCATTGGAGCTACGGCCTGC 1801 286 1514 TCGGT.....CAAAATGGCGAGCGGATCACCTCAAAGCAAGTTGATGAT 1557 296 STREET: Steun.
CITY: San Francisco
STATE: California 312 uTyrMetThrSerLeuIleValAsnGlyLysAspThrTrpSerValLysG 269 lnValPheAspProGlnLysGlyThrIleAspLeuSerThrGlyAsnVal 285 217 gAlaValAlaIleThrGlnGlnHisTrpAspGluLysIleGlyGluLeuA 234 201 184 ysAsnTyrPheGluAsnGlyTyrAspAlaArgHisAlaAlaPheLeuGlu 167 ADDRESSEE: SerSerValLeuThrPheIleThrProThr........ hrProGlyGluGluValArgGlu..... GCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGC 185 GATTCGAGAAATGTATTAGTGGCTCCAACTTCAATGTTGGATCAAAGTTT 1751 GCTTA...GATAAGTTAATCTCATCTGTAAGTGCATTTACCTCGTCTAAT 1701 CTTATCGCAAAAGGTAACGGCAAAATTACCCAAGATGAGCTATCAAAAGT 1607 AAAACTGGTTCCGAGAG......1449 rLeuGluAsnGlyGlyLeuLeuGluAlaGlnProLysGluPheThrGlnG laGlyIleThrArgAsnAlaAspArgSerGlnSer...... AspSerLeuSerLeuLeuAlaAspPheSerArgGlnHisAlaValGluAr 217 lyIleLysAsnHisLysGlyValTyrAspTyrSer 340GCTGATTTTGCTAAAGAAGTGCCTAATTATAA 148ArgLysGlnSerGlyLysTyrGl 312 E: Townsend and Townsend Khourie and Crew Steuart Street Tower, One Market Plaza 1948 297 245 295 269 alignment_block: alignment_scores ; MOLECULE TYPE: PCT-US95-08554-2 TELEPAX: (415) 543-5043
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 758 amino acids
TYPE: amino acid US-09-306-689-12 x PCT-US95-08554-2 Align seg 1/1 to: PCT-US95-08554-2 from: 1 to: Percent Similarity: 1164 AGCATTTGCCGGTATTGCCGATAAATTTAATCATGCAAAAAGTTTAGAGA 1213 1064 CTTCTTACATTTTAGCCCCAACGTGTTGCAGCAGGTTTATCTTCAACTGGG 1113 1014 GGGTTTTGAATTGGCAAACCAAGTTGTTGGTAATATTACCAAAGCCGTTT 1063 1264 GCAGAATATCAGCGGGGAACAGGGACTATTGATGCATCGGTTACTGCAAT 1313 1214 GTTATGCCGAACGCTTTAAAAAATTAGGCTATGACGGAGATAATTTATTA 1263 1114 CCTGTGGCTGCTTTAATTGCTTCTACTGTTTCTCTTGCGATTAGCCCATT 1163 1314 TAATACCGCATTGGCCGCTATTGCTGGTGGTGTGTGTGCTGCTGCAGCC. 1362 101 964 GCACTTGTACTTGCAGATAAAAATGCTTCAACAGCTAAAAAAGTGGGTGC TELEPHONE: (415) 543-9600 SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA: COMPUTER READABLE FORM: MEDIUM TYPE: Floppy 134 laSerLeuIleGlyAlaProIleSerMetLeuValSerAlaLeuThrGly 150 ATTORNEY/AGENT INFORMATION: 84 67 51 34 17 aGlyIleGluLeuThrThrGlnValLeuGlyAsnValGlyLysAlaValS 1 SerPheIleLeuGlyAsnSerAspAlaHisThrGlyThrLysAlaAlaAl 17 APPLICATION NUMBER: FILING DATE: 14-JUN CLASSIFICATION: COMPUTER: IBM PC OPERATING SYSTEM: TOPOLOGY: REFERENCE/DOCKET NUMBER: NAME: Garrett-Wackowski, Eugenia REGISTRATION NUMBER: 37,330 ||| :::::::: ||||||||||||::::||||:::|| AlaAlaPheHisLysGluThrGlyAlaIleAspAlaAlaLeuThrThrIl 117 AlaSerAlaGlyLeuIleThrSerAlaValMetLeuAlaIleSerProLe Quality: Ratio: 94105-1493 linear IBM PC compatible SYSTEM: PC-DOS/MS-DOS Floppy disk protein 14-JUN-1994 403.00 1.807 56.456 PCT/US95/08554 Percent Identity: 30.633 15280206, DHHSE135940 GATTTAACATTTGAAAAAGT 1382 Length:

84

67

50

34

1558

1482

184

217

1902

1852

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seq_documentation_block:
; Sequence 4, Application US/08387156
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US-09-306-689-12 x US-07-690-983D-47
                                                           seq_name: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:US-08-387-156-4
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                                                                                                                                             322 GGT 324
                                                                                                                                                                                                                                                                     TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: prot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 84 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/AU90/00373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 20007-5109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                              272 GCCTGCGCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCG 321
                                                                                                                                                                                                                                                                                                                                                                                               172 GGATCTCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGA 22:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                      82 Gly 82
                                                                                                                                                                                     68 lyLeuArgProGly......GluHisTrpSerTyrGlyLeuArgPro
                                                                                                                                                                                                                                                                                                                                                        43 .....GluHisTrpSerTyrGlyLeuArgProGly......GluHi 54
                                                                                                                                                                                                                                                                                                                                                                                                                                         29
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22 TCTCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15 pSerTyrGlyLeuArgProGly......GluHisTrpSerTyrGlyL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 SerGluHisTrpSerTyrGlyLeuArgProGly......GluHisTr 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: BENT, Stephen A. REGISTRATION NUMBER: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/0 FILING DATE: 25-JUN-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Washington, D.C. COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                     euArgProGly......GluHisTrpSerTyrGlyLeuArgProGly 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Quality:
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4.779
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seq_documentation_block:
    Sequence 4, Application US/08694865
    Patent No. *5837268
                                                                      seq_name:
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                                                                                                                                                                                                                                                                                                                                                                                                       Quality: 290.00
Ratio: 5.918
Percent Similarity: 100.000
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APPLICATION NUMBER: US 07/960,932
EILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
ATTORNEY/ACENT INFORMATION:
NAME: ROBINS, ROBERTA L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Patent No. 5723129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (415) 327-3231 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                            125
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REFERENCE/DOCKET NUMBER: 900
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                              34
                                                                                                                                                                         17 rTyrGlyLeuArgProGlyGlySerSerGlnH1sTrpSerTyrGlyLeuA 34
                                                                                                                                                                                                            75 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 124
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OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
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                                                                                                     rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 49
                                                                                                                                        GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 171
                                                                    /cgn2_6/ptodata/2/iaa/5B_COMB.pep:US-08-694-865-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       amino acid
GY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      49 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HUGHES,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REED & ROBINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein
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Gaps:
Percent Identity:
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seq_documentation_block:
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US-09-306-689-12 x US-08-694-865-4
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; MOLECULE TYPE:
US-08-694-865-4
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Ratio: 5.918
Percent Similarity: 100.000
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                                                                                                                                     Sequence 4, Application US/08878748 Patent No. 5969126
                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (415)327-323
INFORMATION FOR SEQ ID NO:
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/694,865
FILING DATE: 09-AUG-1996
CLASSIFICATION: 424
ATTORNEY/ACENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
REGERENCY/OCCUPANTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS LLP
STREET: 285 HAMILTON AVENUE, SUITE 200
                                       APPLICANT: POTTER, ANDREW A APPLICANT: REDMOND, MARK J. APPLICANT: HUGHES, HUW P.A. TITLE OF INVENTION: GRRH-LEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                         125 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                                                                                                                                           25 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 49 amino TYPE: amino acid
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CITY: PALO ALTO
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                                                                                               POTTER, ANDREW A.
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                                         Gnrh-Leukotoxin Chimeras
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100.000
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ADDRESSEE: STREET: 6

635 BRYANT STREET

REED & ROBINS

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TYPE: amino acids
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-878-748-4
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US-09-306-689-12 x US-08-878-748-4
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Quality:
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Ratio: 5.918
Percent Similarity: 100.000.
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COMPUTER: IBM PC COMPACTIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/878,748
FILING DATE: 19-JUN-1997
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/387,156
FILING DATE: 10-FEB-1995
APPLICATION NUMBER: US 07/960,932
FILING DATE: 10-CCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
APPLICATION STANDARD STAND
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 49 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: ROBINS, ROBERTA L.
REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 9001-0016.21
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
                                                  125 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                         17 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA 34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG 74
34 rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 49
                                                                                                                                                                                                                                                                                             75 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 124
                                                                                                                                                                                                                                                                                                                                                                                        STATE: CALIFORNIA COUNTRY: UNITED STATES OF AMERICA ZIP: 94301
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Gaps: 0
Percent Identity: 100.000
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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

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Title:
Perfect score:
                                                                                                                                                                                                                                                          Database :
                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
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1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
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3591
1 MATVIDRSQHWSYGLRPGSG.....GLRPGSGSQDWSYGLRPGGS 695
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Gapop 10.0 , Gapext 0.5
sp_invertebrate:*
sp_mammal:*
sp_mammal:*
sp_organelle:*
sp_organelle:*
sp_phage:*
sp_plant:*
sp_plant:*
sp_virus:*
sp_vertebrate:*
sp_unclassified:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

19	18	17	16	15	14	13	12	11	10	9	8	7	6	ъ	4	ω	2	-	Result No.
170	171.5	177.5	187.5	205.5	208.5	372.5	377.5	377.5	554.5	570.5	827	844	845	845	847	849	855	951.5	Score
4.7	4.8	4.9	5.2	5.7	5.8	10.4	10.5	10.5	15.4	15.9	23.0	23.5	23.5	23.5	23.6	23.6	23.8	26.5	Query Match
565	922	1039	707	1706	1729	181	181	181	208	233	1055	998	998	998	998	998	998	1049	Query Match Length
2	2	ر ا	11	N	5	N	N	N	N	N	2	2	N	N	N	N	N	2	BB
Q9S0T3	091964	O9VTR6	061869	Q9L469	090617	070070	068404	068403	051868	Q51865	Q43892	047262	Q47461	P71223	Q46716	085101	Q9LC58	Q9RCG8	ID
Q9s0t3 escherichia	Q91964 moraxella c	Ogytr6 drosophila		Q91469 bordetella	Q9u617 drosophila	070070 escherichia			Q51868 pasteurella	Q51865 pasteurella	Q43892 actinobacil	Q47262 escherichia	Q47461 escherichia	P71223 escherichia	Q46716 escherichia	O85101 escherichia	Q91c58 escherichia	Q9rcg8 pasteurella	Description

		45 148 5	44 148.5			41 150.5			38 152	•					32 155							16			22 164		
	;	4 1	4.1	4.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.4	4.4	4.5	4.5	4.5	4.6	4.6	4.6
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•	Korraco al rocca	nandso volella fac		Q9wwr6 pseudomonas	Q07290 streptococc	Q9pub5 brachydanio	Q9xd52 moraxella c		Q9ry75 deinococcus		Q91960 moraxella c	P74440 synechocyst		Q53821 salmonella	Q46037 campylobact	Q54515 salmonella	Q9pc04 xylella fas		097054 dictyosteli	097643 lama glama	Q54415 salmonella	Q9wty8 rattus norv	013936 schizosacch	Q9nhx4 drosophila	_	052781 campylobact	Q9ryg4 deinococcus

ALIGNMENTS

QY 227 SVLAGMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNI 286	Db 105 VTDQFLGLTERGLTLFAPQLDKFLQQHSKISNVVGSSTGDTVNKLAKSQAIISGVQSVLG	QY 169 TIQTAIGLTERGIVLSAPQIDKLLQK-TKAGQALGSAE-SIVQNANKAKTVLSGIQSILG	Db 48 GKSIQKYG-NKLVLVIPKDYDVNTGNGFFDLAKAAEELGIQVKYIDRNDLEIAHKSLG	QY 109 GSSFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLG	Hest Local Similarity 42.3%; Fred. No. 1e-41; Matches 224; Conservative 86; Mismatches 140;		SQ SEQUENCE 1049 AA; 112308 MW; 9FA5070E48CC3127 CRC64;	PROSITE; PS00330; HEM	DR PRINTS; PRO0313; CABNDNGRPT.			"Identification and characterization	Hevberger-Mever B., Frev J., Nicolet	RC STRAIN-FIELD STRAIN TE1319:		Pasteurella.		OS Pasteurella aerogenes	01-JUN-2000 (TrEMBLrel. 14,	01-MAY-2000 (TrEMBLrel. 13,	AC Q9RCG8;	RCG8
NIANSVKTLDEFGEQISQFGSKLQNI 286	GSSTGDTVNKLAKSQAIISGVQSVLG 164	GSAE-SIVQNANKAKTVLSGIQSILG 226	FDLAKAAEELGIQVKYIDRNDLEIAHKSLG 104	KAAEELGIEVQREERNNIATAQTSLG 168	1e-41; hes 140; Indels 79; Gaps 12;	5; DB 2; Length 1049;	0E48CC3127 CRC64;				k/DDBJ databases.	a new RTX toxin operon (pax)	J., Kuhnert P.:				sion: Pasteurellaceae:		tion update)	ce update)	, nn.	0 , ,

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Taneike I., Wakisaka-Saito N., Harada Y., Zhang H.-M., Yamamoto T.;
"The enterchemorrhagic Escherichia coli (EHC) hemolysin genes of a
Shiga toxin 1 (Stx1)- and Stx2-producing, serotype Ol28 Escherichia
coli strain with a greatest hemolytic activity.";
Acta Med. Biol. 0:0-0(2000).
EMBL; AB0332930; BAA93708.1; -
SEQUENCE 998 AA; 107196 MW; CD7A88E9BD862DB6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Escherichia coli.
Bacteria; Proteobacteria;
Escherichia.
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01-OCT-2000 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
                343, ANQVVGNITKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          518 KILAKKPDDFNRVILDPKKGKIDISNSQTSTLLKFVTPL--LTPGTESR
                                             VLAGMDLDEALQ-----NNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSK 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALSGMALDELLRKQREGEDISQNDIAKSSIELINQLVDTVSSINSTVDSFSEQLNQLGSF
                                                                                                                                                              AEKVVGLTERGVAIFAPQLDKLLQKYQKVGSKIGGTAENVGNNLGKAGTVLSALQNFTGI 141
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Last sequence update)
Last annotation update)
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Pred. No. le-36;
2; Mismatches 1
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Best Local
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085101;
01-NOV-1998
01-NOV-1998
01-JUN-2000
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INTERPRO; IPR001343; -.
PFAM; PF00353; hemolysincabind;
                                                                                                                                                                                                                                                                                                                                        coli.
                                                                                                                                                                                                                                                                                                                                                             Gyles C.;
"Evolution of enterohemorrhagic Escherichia coli
                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-ENTEROHEMORRHAGIC EC920006;
MEDLINE-98261495; PubMed-9596716;
Boerlin P., Chen S., Colbourne J.K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Escherichia coli.
Plasmid EHEC-hemolysin.
Bacteria; Proteobacteria;
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                           AEKVVGLTERGVAIFAPQLDKLLQKYQKVGSKIGGTAENVGNNLGKAGTVLSALQNFTGI
VLAGMDLDEALQ-----NNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSK
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                                                                                                                                                                                                                                                                                                                                                   enterocyte effacement
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Pred. No. 2.1e-36;
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HEMOLYSIN A (HLYA).
HLYA OR EHEC-HLYA.
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Q46716;
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Makino K., Ishii K., Yasunaga T.,
Yatsudo H.C., Kubota Y., Yamaichi
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                       MEDLINE-98391744; PubMed-9722640; Burland V., Shao Y., Perna N.T.,
                                                                                  Hall R.H., Xu J., Walderhaug M.O.; Submitted (JUL-1994) to the EMBL/GenBank/DDBJ
                                                                                                         SEQUENCE OF
STRAIN-EHEC;
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              Blattner F.R.;
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RESULT P71223 AC P DT 0.0 DT 0.0 DT 0.0 DT 0.0 CN E GON E COS E CO

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PROSITE;
Plasmid.
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EMBL; AB011549; BAA31774.1; -.
EMBL; U12572; AAA20544.1; -.
EMBL; AF074613; AAC70116.1; -.
INTERPRO; IPR001343; -.
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                                                                                                                     DELSKYVDNYELLK-HSKNVTNSL-DKLISSVSAFTSSNDSRNVLVAPTSMLDQSLSSLQ 588
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Q47451;
01-NOV-1996
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INTERPRO; IPRO01343; -
PFAM; PF00353; hemolysinCabind; 2.
PRINTS; PR00313; CABNDNGRPT.
PROSITE; PS00330; HEMOLYSIN_CALCIUM;
PROSITE; PS00330; HEMOLYSIN_CALCIUM;
PROSITE; PS00330; HEMOLYSIN_CALCIUM;
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Pred. No. 3.4e
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3.4e-36;
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Best Local Similarity 35.1
Matches 218; Conservative
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PRAM; PPO0353; hemolysinCabind; 2
PRINTS; PRO0313; CABNDNGRPT

PROSITE; PS00330; HEMOLYSIN_CALCI
Plasmid
SEQUENCE 998 AA; 107032 MW; 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-95172699; PubMed=7868227; Schmidt H., Beutin L., Karch H.; Schmidt H., Beutin L., Karch H.; "Molecular analysis of the plasmid-encoded coli 0157:H7 strain EDL 933."; Infect. Immun. 63:1055-1061(1995). EMBL; X86087; CAA60042.1; -
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                                                                             -NYLENGGLLEAQPKEFTQQVFDPQKGTIDLSTGNVSSVLTFITPT-
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Matches 218
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SEQUENCE FROM N.A.
MEDLINE-95172699; PubMed-7868227;
Schmidt H., Beutin L., Karch H.;
Schmidt H., Beutin L., Karch H.;
"Molecular analysis of the plasmid-encoded hemolysin coli 0157:H7 strain EDL 933.";
Tnfect. Immun. 63:1055-1061(1995).
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PRINTS; PR00313; CABNDNGRPT.
PROSITE; PS00330; HEMOLYSIN_CALCIUM; 2.
SEQUENCE 998 AA; 107058 MW; 0D3BE108C309B8B3 CRC64;
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Q43892;
Q1-NOV-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PFAM; PF00333; hemolysinCabind; 3.
PRINTS; PR00313; CABNDNGRPT.
PROSITE; PS00330; HEMOLYSIN_CALCIUM; 3.
SEQUENCE 1055 AA; 113853 MW; 5331C396FA76669E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1996
01-JUN-2000
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EMBL; X16829; CAA34731.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bacteria; Proteobacteria; gamma subdivision; Actinobacillus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Actinobacillus
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   NELREKYKTENTLSITQQGWDQRIGELAGITRNGDRIQSGKAYVDYLKKGEELAKHSDKF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VKGIKNHKGVYDYS
                                                                         --- PNYKATK
                                                                                                                                           AITSLISGILDASKQAVFEHIANQLADKIKAWENKYGKNYFENGYDARHSAFLEDSLKLF
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02; Conservative
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Pred. No. 3.3e-3
36; Mismatches 1
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Best Local Similarity
Matches 117; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q51868; Q51866;
01-NOV-1996 (TrEMBLrel. 01, Create
01-NOV-1996 (TREMBLrel. 15, Last &
01-CCT-2000 (TREMBLREL. 15, Last &
LEUKOTOXIN A (FRAGMENT).
Pasteurella haemolytica.
Bacteria; Proteobacteria; gamma su
Pasteurella.
PFAM; PF00353; hemolysinCabind; 1. PRINTS; PR00313; CABNINGRPT. PR053TE; PS00330; HEMOLYSIN_CALCIUM; NON_TER 1. 1
                                                                                                                                            STRAIN-T4 SEROTYPE AND T15 SEROTYPE;
Lainson A.F., Aitchison K.D., Donachie W.;
Submitted (JUN-1993) to the EMBL/GenBank/DDBJ
EMBL; Z22885; CAA80499.1; -.
EMBL; Z22886; CAA80500.1; -.
INTERPRO; IPRO01343; -.
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Lainson A.F., Aitchison K.D., Donachie W.;
Submitted (JUN-1993) to the EMBL/GenBank/DDBJ databases.
EMBL; 222887; CAA80501.1; -
EMBL; 222884; CAA80498.1; -
INTERPRO; IPR001343; -
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01-NOV-1996 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
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Pasteurella haemolytica
                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=746;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KVTIQNWFREAEFAKTIQNYVATRDDKIEEIIGQNGERITSKQVDELIEKGNGKIAQSEL
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Pred. No. 8.2e-23;
6; Mismatches 32
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SEQUENCE
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INTERPRO; IPR000911; -...
PROSITE; PS00359; RIBOSOMAL_L11; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Boyd E.F., Hartl D.L.;
Boyd E.F., Hartl D.L.;
"Chromosomal regions specific to pathogenic isolates of "Chromosomal regions";
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01-AUG-1998 (TrEMBLrel.
01-MAY-2000 (TrEMBLrel.
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Pred. No. 6.8e-13;
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                                                                       EMBL;
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Escherichia
                                                                                                                                              Boyd E.F., Hartl D.L.;
"Chromosomal regions specific to pathogenic coli have a phylogenetically clustered distr
                                                                                                                                                                                                                                                                                                                                  Bacteria;
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            i have a phylogenetically clustered d

Bacteriol. 180:1159-1165(1998).

L; AF037579; AAC38268.1; -.

L; AF037574; AAC38263.1; -.

L; AF037575; AAC38264.1; -.

L; AF037577; AAC38265.1; -.

L; AF037577; AAC38266.1; -.

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Pred. No. 6.8e
33; Mismatches
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PROSITE; F
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SEQUENCE
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01-MAY-2000
01-OCT-2000
                                                                                                                                                                                                                                             "Chartier A., Astier M., Zaffran S., Semeriva M., Gratecos D.;
"Charterization of an extracellular matrix component specifical
expressed in the basal lamina of the dorsal vessel in Drosophila
melanogaster.";
Submitted (NOY-1999) to the EMBL/GenBank/DDBJ databases.
SEMBL, AF703342; AAR13280.1;
SEQUENCE 1729 AA; 164661 MW; DA9B1B7FAB5CDEDB CRC64;
                                                                                                                                                                                                                                                                                                                                                                        Drosophila melanogaster (Fruit fly),
Eukaryota; Metazoa; Arthropoda; Tracheata; He
Pterygota; Neoptera; Endopterygota; Diptera;
Ephydroidea; Drosophilidae; Drosophila.
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QPGYGTQPGVGAQTGTGQPGYGSQPGVGTQIGAGQPGYG-SQPGIG---+GQTGAGQPGYG
                                             GYGTQPGIGAQTGAGQPGYGSQPGIGGQTGAGQ
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                    ELGIEVQREERNNIATAQTSLGT---IQTAIGLTERGIVLSAPQIDKLLQKTKAGQ-ALG
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                                                                                           VQTGAGQPGYGSQPGIGAQTGAGQPGYGSQPGIGGQTGAGQP-GYGSQPGIGGQTGAGQP
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82; Conser
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PS00012; PHOSPHOPANTETHEINE;
PS00359; RIBOSOMAL_L11; UNKNO
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Pred. No. 0.01
72; Mismatches
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Pred. No. 1.2e
34; Mismatches
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                                                                                        Query Match
Best Local Similarity
Matches 107; Conserv
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SEQUENCE
                                                                                                                                                                                                                                                                                                           Boursaux-Eude C., Guiso N.;
"Sequencing of the Bordetella parapertussis ad hemolysin-encoding gene.";
Submitted (SEP-1999) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
BIFUNCTIONAL HEMOLYSIN-ADENYLATE CYCLASE PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9L469;
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                                                                                                                                                                                                                                                                                    EMBL; AJ249835; CAB76450.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=519;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bordetella parapertussis.
Bacteria; Proteobacteria;
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% 6. DRSQHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYG-LRPGSGSQ-------DWSYGLR 55
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              NHAKSLESYAERFKKLGYDGDNLLAEYQRGTGTIDASVTAINTALAAIAGGVSAAAA
                                                                IALQLTGGTVELASSIALALAAARGVTSGLQVAGASAGAAAGALAAALSPMEIYGLVQQS
                                                                                                                                     -----GFFRGSSRWAGGFGVAGGAMALGGGIAAAVGAGMSLTD-DAPAGQKAAVGAE
                                                                                                                                                                    KLQNIKGLGTLGDKLKNIGGLDKAGLGLDVISGLLSGATAALVLADKNASTAKKVGAGFE 341
                                                                                                                                                                                                                                           VLAGMDLDEALQNNSNQHALA------KAGLELTNSLIENIANSVKTLDEFGEQISQFGS
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Search completed: March 2, 2001, 11:01:01 Job time: 471 sec

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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30
143.5	143.5	144	144.5	144.5	145	146.5	147	147.5	148.5	150	150.5	151	152	153	153
4.0	4.0	4.0	4.0	4.0	4.0	4.1	4.1	4.1	4.1	4.2	4.2	4.2	4.2	4.3	4.3
575	424	593	3535	1113	953	559	1082	5627	2059	1822	893	641	1467	4199	2032
2	N	ш	N	N	N	2	N	N	N	N	N	N	N	N	2
140615	T08093	KRHU0	E83641	S28925	S75285	F81809	н81020	C83339	D82671	S33441	A37284	C82206	A75564	S76412	139917
flagellin protein	oleosin homolog ST	keratin 10, type I	<pre>probable hemagglut ;</pre>	nuclear pore compl	methyl-accepting c	hypothetical DNA-b	serotype-l-specifi	hypothetical prote	surface protein XF	EF protein - Strep	surface-array prot	methyl-accepting c	conserved hypothet	hypothetical prote	hypothetical prote

ALIGNMENTS

R;Highlander, S.K.; Chidambaram, M.; Engler, M.J.; Weinstock, G.M. DNA 8, 15-28, 1989

C;Species: Pasteurella haemolytica
C;Date: 12-Oct-1989 #sequence_revision 15-Nov-1996 #text_change 18-Jun-1999
C;Accession: B30169; C32051; S29516

N; Alternate names: lktA protein

leukotoxin A - Pasteurella haemolytica (serotype

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C;Superfamily: hemolysin A; hemolysin A homology
C;Superfamily: hemolysin A; hemolysis; exotoxin; hemolysis; lipoprotein; tandem-repe
C;Keywords: calcium binding; cytolysis; exotoxin; hemolysis; lipoprotein; tandem-repe
F;238-784/Domain: hemolysin A homology <HLYA>
F;716-807/Region: 9-residue repeats (G-G-X-G-[DN]-D-X-[LVIYF]-X)
F;554/Binding site: palmitate (Lys) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;MoLecule type: DNA
A;Residues: 1-741,'D',743-953 <LOR>
A;Residues: 1-741,'D',743-953 <LOR>
A;Cross-references: EMBL:M20730; NID:g150492; PIDN:AAA25529.1; PID:g150494
C;Comment: This organism causes bovine pneumonic pasteurellosis (shipping fever).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Title: Nucleotide sequence of the leukotoxin A;Reference number: S29515; MUID:87306837 A;Accession: S29516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: DNA
A; Residues: 1-953 <HIG>
A; Residues: 1-953 <HIG>
B; Strathdee, C.A.; Lo, R.Y.C.
J. Bacteriol. 171, 916-928, 1989
J. Bacteriol. 171, 916-928, 1989
A; Title: Cloning, nucleotide sequence, and characterization of genes
A; Reference number: A32051; MUID: 89123172
A; Accession: C32051
A; Status: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Gene: lktA
C;Function:
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A;Residues: 947-953 <STR>
R;Lo, R.Y.C.; Strathdee, C.A.; Shev
Infect. Immun. 55, 1987-1996, 1987
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A;Reference number: A30169; MUID:89210283
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Matches 484
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                                                                                                                    Local Similarity 51.8 ses 484; Conservative
SGSQDWSYGLRPGGSSFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQRE 155
                                                                                                                                         58.7%;
51.8%;
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                                                                                                                 Score 2108.5; DB 1;
Pred. No. 1.3e-94;
1; Mismatches 12;
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156

ERNNIATAQTSLGTIQTAIGLTERGIVLSAPQIDKLLQKTKAGQALGSAESIVQNANKAK 215

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N;Alternate names: lktA protein
C;Species: Pasteurella haemolytica
C;Date: 10-Aug-1990 #sequence_revision 15-Nov-1996 #te
C;Accession: S37145, A35254; S34237; S34235
R;Lainson, A.F.; Aitchison, K.; Donachie, W.
submitted to the EMBL Data Library, September 1993
A;Description: DNA sequence of the leukotoxin A gene f
A;Reference number: S37145
A;Accession: S37145
A;Molecule type: DNA
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A;Title: Secretion and expression of the Pasteurella hae
A;Reference number: A35254; MUID:90236888
A;Accession: A35254
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 950-955 <HIG>
A;Cross-references: GB:M24197; GB:M34943; GB:M34944
A;Cross-references: SA4235
A;Accession: S34235
A;Accession: S34237
A;Molecule type: DNA
A;Residues: 745-955 <LA2>
A;Cross-references: EMBL:Z22884; NID:g311828; PIDN:CAA80
A;Experimental source: serotype T3
A;Accession: S34235
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A;Accession: S34235
A;Molecule type: DNA
A;Residues: 723-955 < LA3>
A;Cross-references: EMBL:Z22887; NID:g311824; PIDN:CAÀ80501.1; P1
A;Cross-references: EMBL:Z22887; NID:g311824; PIDN:CAÀ80501.1; P1
A;Cross-references: EMBL:Z22887; NID:g311824; PIDN:CAÀ80501.1; P1
C;Function:
C;Function: attacks cell membranes and causes cell lysis
C;Function: attacks cell membranes and causes cell lysis
C;Superfamily: hemolysin A; hemolysin A homology
C;Keywords: calcium binding; cytclysis; extoxin; hemolysis; lipc
C;Keywords: calcium binding; cytclysis; extoxin; hemolysis; lipc
F;240-786,Domain: hemolysin A homology < CHLYA>
F;718-809/Region: 9-residue repeats (G-G-X-G-[DN]-D-X-[LVIYF]-X)
F;718-726,Region: repeat
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F;745-753/Region: repeat
F;754-762/Region: repeat
F;763-771/Region: repeat
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A;Cross-references: EMBL:226247; NID:g400424; PIDN:CAA81206.1; R;Highlander, S.K.; Engler, M.J.; Weinstock, G.M.
J. Bacteriol. 172, 2343-2350, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F;792-800/Region: repeat
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F;781-789/Region:
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Best Local Similarity
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                                                                        NHAKSLESYAERFKKLGYDGDNLLAEYQRGTGTIDASVTAINTALAAIAGGVSAAAA---
                                                                                                                                          AGFELANQVVGNITKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKF
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                                              DRAKSLENYAERFKKLGYEGDSLLAEYQHGTGTIDASVTAINTALAAIAGGVSAAAAGSV
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A;Title: Cloning and characterization of a hemolysin ger
A;Reference number: A33389; MUID:90126233
A;Accession: B33389
A;Molecule type: DNA
A;Residues: 1-956 <CHA>
A;Cross-references: GB:M30602; NID:9141823; PIDN:AAA872:
A;Experimental source: serotype 5
A;Experimental source: serotype 5
R;Smits, M.A.: Briaire, J.; Jansen, R.; Smith, H.E.; Kar
submitted to the EMBL Data Library, July 1991
A;Description: Cytolysins of Actinobacillus pleuropneumo
A;Reference number: S18852
                                                                                                                                                                                                                                                                                                                                                                                                                                 toxin II - Actinobacillus pleuropneumoniae
N;Alternate names: cytolysin II; RTX-toxin II (ApxII)
C;Species: Actinobacillus pleuropneumoniae
C;Date: 09-Mar-1990 #sequence_revision 01-Nov-1996 #text_change
C;Accession: B33389; S18853; B43599
R;Chang, Y.F.; Young, R.; Struck, D.K.
DNA 8, 635-647, 1989
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                                                                    Infect. Immun. 59, 4497-4504, 1991
A;Title: Cytolysins of Actinobacillus pleuropneumoniae serotype A;Reference number: A43599; MUID:92040145
A;Accession: B43599
                                                                                                                         A;Cross-references: EMBL:X61111; NID:g38939; PIDN:CAA43423.1; PID:g38941 R;Smlts, M.A.; Briaire, J.; Jansen, R.; Smith, H.E.; Kamp, E.M.; Gielken Infect. Immun. 59, 4497-4504, 1991
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A; Residues: 1-956 <SI
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C; Comment: C; Genetics: A; Gene: apx. C; Function:
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F;719-801/Region: 9-residue repeats (G-G-X-G-[DN]-D-X-[LVIYF]-X) F;557/Binding site: palmitate (Lys) (covalent) #status predicted
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 FSDVNLKDLTFKKVDSSLEIINQKGEKVRIGNWFLEDDLASTVANYKATNDRKIEEIIGK
                                                        DHLFGGAGDDVIDGGNGNNFLVGGTGNDIISGGKDNDIYVHKTGDGNDSITDSGGQDKLA
                                                                                                                  KIEYRREDDRFHTGYTVTDSLKSVEEIIGSQFNDIFKGSQFDDVFHGGNGVDTIDGNDGD
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508

NGERITSKQVDDLIAKGNGKITQDELSKVVDNYELLKHSKNVTNSLDKLISSVSAFTSSN

Query Match 26.6%; Score 955.5; DB 1; Best Local Similarity 44.1%; Pred. No. 7.6e-39; Matches 234; Conservative 81; Mismatches 133;	Db 511 YDSSVQLDNKNGIINISNTNRKTQSVLFRTPLLTPGEENRERIQEGKNSTITKLHIQRVD 570
יאר איני	4-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3
F;736-862/Region: 9-residue repeats (G-G-X-G-[DN]-D-X-F;571,702/Binding site: palmitate (Lys) (covalent) #st	QY 455 454 OY 455 454 Db 451 DNMKFLINLNKELOAERVVAITOORWDNOTGDLAAISRRTDKISSGKAVVDAFREGOHOS 510
	Db 391 VALLVAGVTGLITTILEYSKQAMFEHVANKVHDRIVEWEKKHNKNYFEQGYDSRHLADLQ 450
	Qy 455 454
Genetics: Gene: apxIIIA	331 LIKSYSERFOKLGYDGDRLLADFHRETGTIDASVTTINTALAAISGGVGAASAGSIVGAP
A; Experimental Source: Strain 403, Serotype o A; Note: the nucleotide sequence was submitted to the E C:Comment: This oranism causes porcine pleuropneumonia	402
A; Residues: 1-1052 <jan2> A; Residues: 1-1052 <jan2> A; Cross references: EMBL: X80055; NID: 9558150; PIDN: CAA5</jan2></jan2>	OY 342 LANQVVGNITKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAK 401
A;Reterence number: S48042; MUID:95012630 A;Accession: S48043 A;Status: preliminary; nucleic acid sequence not shown; A:Molecule type: NNA A:Molecule type: NNA	QY 282 KLQNIKGLGTLGDKLKNIGGLDKAGLGLDVISGLLSGAFRALVLADKNASTAKKYGAGFE 341 : : : : : : : : : : :
nun. 62, 4411-4418, 1994 enetic map of the Actinobacillus pi	151 SILGSVLSGVNLNELLQNKDPNQLELAKAGLELTNELVGNIASSVQTVDAFAEQISKLGS
A; Market Munice States (1907) Servery Co. A; Note: Sequence extracted from NCBI backbone (NCBIN:12 R; Jansen, R.; Briaire, J.; van Geel, A.B.M.; Kamp, E.M.	223
A.Molecule type: DNA A.Residues: 1-1052 <jan1> A.Residues: 1-1052 <jan1> A.Cross-references: EMBL:X68815; NID:g38956; PIDI A.Cross-mental source: strain 405, serotype 8</jan1></jan1>	OY 164 QTSLGTTQTAIGLTERGIVLSAPQIDKLLQKT-KAGQALGSAESIVQNANKAKTVLSGIQ 222 : : : : :
loning e numbe n: B491	34 GLTQTGHSL-QNGAKKLILYIPQGYDSGQGNGVQDLVKAANDLGIEVWREERSNLDIA
R; Jansen, R.; Briaire, J.; Kamp, E.M.; Gielkens, A.L.; Infect. Immun. 61, 947-954, 1993	QY 104 GLRPGGSSFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATA 163
N;Alternate names: RTX-toxin III (ApxIIIA) C;Specles: Actinobacillus pleuropneumoniae C;Date: 19-Dec-1993 #sequence_revision 01-Nov-1996 #tex C;Accession: B49219; S48043; S29958	Query Match 34.8%; Score 1248.5; DB 1; Length 956; Best Local Similarity 34.3%; Pred. No. 4.6e-53; Matches 318; Conservative 65; Mismatches 102; Indels 443; Gaps 8;
RESULT 5 B49219 TIT - Actinobacillus pleuropneumoniae (serotype	F;719-801/Region: 9-residue repeats (G-G-X-G-[DN]-D-X-[LVIYF]-X) F;557/Binding site: palmitate (Lys) (covalent) #status predicted
Db 931 DERNNLGTYVPSS-IDVS-NNIQLARAA 956	C;Superfamily: hemolysin A; hemolysis A homology C;Keywords: calcium binding; cytolysis; exotoxin; hemolysis; lipoprotein; tandem repeat; F;243-787/Domain: hemolysin A homology <hiya></hiya>
MLDQSI	C; Function:
OY 508 NGERITSKOVDDLIAKGNGKITQDELSKVVDNYELLKHSKNYTNS	A; Residues: 1-956 <bur> A; Residues: 1-956 <bur> A; Experimental source: isolate 3714 A; Note: sequence extracted from NCBI backbone (NCBIN:104212, NCBIP:104211) C; Comment: This organism causes acute fatal septicemia in young pigs.</bur></bur>
DSSLEIINQKGEKVRI	A; Accession: A43834 A; Molecule type: DNA
QY 455DLTFEKVKHNLVITNSKKEKVTIQNWEREADFAKEVPN	A;Title: Molecular characterization of an RTX toxin determinant from Actinobacillus suis A;Reference number: A43834; MUII:92267623
Db 751 DHLFGGAGDDVIDGGNGNNFLVGGTGNDIISGGKDNDIYVHKTGE	R;Burrows, L.L.; LO, R.Y. Infact Tmmin 60 2166-2173 1002
Qy 455	C;Date: 31-Dec-1993 #sequence_revision 08-Nov-1996 #text_change 05-Dec-1998
Db 691 KIEYRREDDRFHTGYTVTDSLKSVEEIIGSQFNDIFKGSQFDDVF	toxin II - Actinobacillus suis N;Alternate names: ashA protein; cytolysin II; RTX-toxin II C;Species: Actinobacillus suis
Qy 455	RESULT: 4
Db 631 DGGDGHDRVHYSRGEYGALVIDATAETEKGSYSVKRYVGDSKAL	
Qy 455	Db 931 DFRNNLGTYVPSS-IDVS-NNIQLARAA 956
Db 571 SWTVTVGDASSSVDFTNVVQREAVKFDDAGNIIESKDTKIIANLG	Qy 568 DSRNVLVAPTSMLDQSLSSLQFARGS 593
Qy 455	Db 871 GGERITSEQVDKLIKEGNNQISAEALSKVVNDYNTSKDRQNVSNSLAKLISSVGSFTSSS 930

Length 1052; Indels 83; Gaps

16;

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EMBL Data Library, July 1994
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                                                                                                                                                                                                                                      n; translation not shown
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M., Gielkens, A.L.J.; Smits, M.A
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ANYKATNDRKIEEIIGK 870
-[LVIYF]-X)
tatus predicted
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A; Molecule type: DNA
A; Residues: 1-1049 < CHA>
A; Residues: 1-1049 < CHA>
A; Cross-references: EMBL:L12145; NID:g349605; PIDN:AAA21924.1; PID:g
C; Comment: This orgnism causes porcine pleuropneumonia.
C; Genetics:
A; Gene: apxIIIA
C; Function:
C; Function: lyses lung macrophages
C; Superfamily: hemolysin A; hemolysin A homology
C; Superfamily: hemolysin A; hemolysin A; porcini; tande
C; Keywords: calcium binding; cytolysis; exotoxin; lipoprotein; tande
F; 254-803/Domain: hemolysin A homology < HLVA>
F; 735-861/Region: 9-residue repeats (G-G-X-G-[DN]-D-X-[LVIYF]-X)
F; 571,702/Binding site: palmitate (Lys) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                       C;Date: 14-Jul-1995 #sequence_C;Accession: SS1784
R;Chang, Y:F.; Shi, J.; Ma, D.
DNA Cell Biol. 12, 351-362, 19
A;Title: Molecular analysis of
A;Reference number: S51783; Mt
A;Accession: S51784
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                            toxin III - Actinobacillus pleuropneumoniae
N;Alternate names: RTX-toxin IIIA (ApxIIIA)
C;Species: Actinobacillus pleuropneumoniae
C;Date: 14 Jul-1995 #sequence_revision 15-No
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                  GSSFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLG 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KLLEKKPDDFSKVV--FDPTKGEIDISNSQTSTLLKFVTPL--LTPGTESR
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 GKAVQKYG-NKLVLVIPK--EYDGSVGNGFFDLVKAAEELGIQVKYVNRNELEVAHKSLG
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                                                                Conservative
                                                                             26.1%;
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MUID:93263992
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                                                              Score 938.5; DB 1;
Pred. No. 5e-38;
0; Mismatches 137;
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A; Title: Sequence analysis :
A; Reference number: 139644;
A; Accession: 139645
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A; Reference number: A; Accession: S60732
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A; Residues: 1-1022 < RES>
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Infect. Immun. 61, 3688-3695, 1993
A;Title: Structural analysis of the Actinobacillus A;Reference number: I39641; MUID:93366425
A;Status.
                                                                                                                                                                                           RTX-toxin I - Actinobacillus pleuropneumoniae
N;Alternate names: hemolysin ApxI
C;Species: Actinobacillus pleuropneumoniae
C;Date: 19-Jul-1996 #sequence_revision 08-Nov-1996 #text_change 18-Jun-1999
C;Accession: I39643; S18769; I39645; S60732; S35781
R;Jansen, R.; Briaire, J.; Kamp, E.M.; Gielkens, A.L.; Smits, M.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KITQ---DELSKVVDNYELLKHSKNVTNS----LDKLISSVSAFTSSNDSR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SYAERFKKLGYDGDNLLAEYQRGTGTIDASVTAINTALAAIAGGVSAAAAD-------
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EFAERFKKLGYDGDKLLSEFYHEAGTIDASITTISTALSAIAAGTAAASAGALVGAPITL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KLLEKKPDDFSKVV--FDPTKGEIDISNSQTSTLLKFVTPL--LTPGTESR
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                                                                         acid sequence not shown;
                                                                            translation
                                                                                                                                                   pleuropneumoniae-RTX-toxin
                                                                         not shown;
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PID: g312899
                                                                            translated
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                                                                            from
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A;Cross-references: EMBL:X73117; NID:g312897; R;Frey, J.; Meier, R.; Gygi, D.; Nicolet, J. PIDN:CAA51548.1;

R;Frey, J.; Meier, R.; Gygi, D.; Nicolet, J. Infect. Immun. 59, 3026-3032, 1991
A;Title: Nucleotide sequence of the hemolysin A;Reference number: S18769; MUID:91348845
A;Accession: S18769 gene from Actinobacillus pleuropneumo

A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-209, 'AMPYLTLA', 218-373, 'R', 375-561, 'Q', 563-686, 'TC', 688-1022
A;Cross-references: EMBL: X52899; NID: 938949; PIDN: CAA37081.1; PID: 938950
R;Frey, J.; Haldimann, A.; Nicolet, J.; Boffini, A.; Prentki, P.

and transcription; MUID:94237497 of the apxI operon (hemolysin I)

DNA acid sequence not shown; translation not shown; translated

A; Title: The RTX haemolysins ApxI and ApxII are major virulence factors of the A; Reference number: S60731; MUID: 95131743A; Residues: 1-209, 'AMPYLTLA', 218-373, 'R', 375-561, 'Q', 563-686, 'TC', 688-1022 <RE2>A; Cross: references: EMBL:X6859; NID:950556; PION:CAA48586.1; PIO:9505570 R; Tascon, R. I. ; Vazquez-Boland, J. A.; Gutlerrez-Martin, C.B.; Rodriguez-Barbosa, Mol. Microbiol. 14, 207-216, 1994

ESC

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A; Status: preliminary; not compared with conceptual translation A; Molecule type: DNA A; Molecule type: DNA A; Residues: 604-685 <TAS>
C; Comment: This organism causes porcine pleuropneumonia.
C; Genetics: A; Gene: apxIA
C; Function: A; Description: attacks blood cell membranes and causes cell lysis C; Superfamily: hemolysin A; hemolysin A homology C; Superfamily: hemolysin A; hemolysin A homology C; Keywords: calcium binding: cytolysis; evotoxin; hemolysis; lipoprot F; 243-789/Domain: hemolysin A homology <CHLYAP
F; 721-847/Region: 9-residue repeats (G-G-Y-G-[DN]-D-Y-[LVIYF]-X)
F; 560,686/Binding site: palmitate (Lys) (covalent) #status predicted
            DNA Res. 5, 1-9, 1998

#XTitle: Complete nucleotide sequences of A; Reference number: Z14127; MUID:98290540

A; Accession: T00227
                                                                                                 C;Species: Escherichia coli
C;Date: 01-Feb-1999 #sequence_revision
C;Accession: T00227; T42148
R;Makino, K.; Ishii, K.; Yasunaga, T.;
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Best Local S
Matches 216
                                                                                    Shinagawa,
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les 216; Conserv
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                                                                                                                                                                                                                                                                                                    FTSSNDSRNVLVAPTSMLDQSLSSLQ-----FARGSQHW 596
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                                                                                                                                                                                                                                                                                                                                                                       -ITSKQVDDLIAKG------NGKITQDELSKVVDNYELLKHSKNVTNSLDKLI--SSVSA 562
                                                                                                                                                                                                                                                                                                                                                                                                             EWEKKHGKNYFENGYDARHSAFLEDTFELLSQY - - NKEYSVERVVAITQQRWDVNIGELA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INTALAAIAGGVSAAAA-----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LIENIANSVKTLDEFGEQISQFGSKLQNIKGLGTLGDKLKNIGGLDKAGLGLDVISGLLS
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translated
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                                                                                                                                                                           Escherichia
from
GB/EMBL/DDBJ
                                                                                                                                      01-Feb-1999 #text_change
                                                                                                        Hattori,
                                                                                                                                                                           coli
                                                   93-kb
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                                                   3.3-kb
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A;Molecule type: DNA
A;Residues: 1-998 <MAK>
A;Residues: 1-998 <MAK>
A;Cross-references: EMBL:AB011549; NID:94589740; PIDN:BAA31774.1; PID:93337015
A;Cross-references: EMBL:AB011549; NID:94589740; PIDN:BAA31774.1; PID:93337015
A;Experimental source: strain EHEC 0157:H7, substrain RIMD 0509952
R;Burland, V:; Shao, Y:; Perna, N.T.; Plunkett, G:; Sofia, H.J.; Blattner, F.R
Nucleic Acids Res. 26, 4196-4204, 1998
A;Title: The complete DNA sequence and analysis of the large virulence plasmid
A;Reference number: Z22068; MUID:98391744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Gene: hlyA
A;Genome: plasmid po157
A;Genome: plasmid po157
C;Superfamily: hemolysin A; hemolysin A homology
C;Keywords: cytolysis; hemolysis; lipoprotein; toxin
F;233-776/Domain: hemolysin A homology <HLYA>
F;233-776/Domain: hemolysin A homology <HLYA>
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A;Molecule type: DNA
A;Residues: 1-998 <BUR>
A;Cross-references: EMBL:AF074613; PIDN:AAC70116.1
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                                          Y-GLRPGSGSQDWS
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VKGIKNHKGVYDYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LESYAERFKKLGYDGDNLLAEYQRGTGTIDASVTAINTALAAIAGGVSAAAA-------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSSVRSAGKKLILLIPDNYE---AQGVGINELVKAADELGIEIHRTERDDTAIANQFFGA
                                                                                                                                                                                ----NYLENGGLLEAQPKEFTQQVFDPQKGTIDLSTGNVSSVLTFITPT
                                                                                                                                                                                                                             DELSKYVDNYELLK-HSKNYTNSL-DKLISSVSAFTSSNDSRNVLVAPTSMLDQSLSSLQ
                                                                                                                                                                                                                                                                          SLSLLADFSRQHAVERAVAITQQHWDEKIGELAGITRNADRSQS--
                                                                                                                                                                                                                                                                                                                     ----ADFAKEVPNYKATK-----DEKIEEIIG--QNGERITSKQVDDLIAKGNGKITQ
                                                                                                                                                                                                                                                                                                                                                                     SMLVSALTGTISGILEASKQAMFEHVAEKFAARINEWEKEHGKNYFENGYDARHAAFLED
                                                                                                                                   FARGSQHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPGGSQHWS
                                                                                                                                                                                                                                                                                                                                                                                                                                                               LESYSERFKKLNYEGDALLAAFHKETGAIDAALTTINTVLSSVSAGVSAASSASLIGAPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             {\tt LSSKPRLSSVGGKLQNLPDLGPLGDGLDVVSGILSAVSASFILGNSDAHTGTKAAAAGIEL}
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Pred.
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33; serotype 0157:
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No. 1.2e-33;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Schmidt, H.; Beutin, L.; Karch, H. Infect. Immun. 63, 1055-1061, 1995
A;Title: Molecular analysis of the plasmid-encoded hemolysin A;Reference number: I41077; MUID:95172899
A;Accession: I41078
C; Species:
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C;Date: 31-May-1996 #sequence_revision
C;Accession: I41078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F;550,675/Binding site: palmitate (Lys) (covalent) #status
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mes 218; Conserv
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                                                                                               VKGIKNHKGVYDYS 580
                                                                                                                                                                                                                                                          DELSKYVDNYELLK-HSKNYTNSL-DKLISSYSAFTSSNDSRNYLVAPTSMLDQSLSSLQ
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                                                                                                                                                                                           FARGSOHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGGSQHWS
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A - Actinobacil
Actinobacillus
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             Actinobacillus actinomycetemcomitans
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Pred. No. 1.7e-33;
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A;Description: lyses human polymorphonuclear lymphocytes and monocytes C;Superfamily: hemolysin A; hemolysin A homology C;Keywords: cytolysis; hemolysis; lipoprotein; periplasmic space; tande F;245-790,Domain: hemolysin A homology <HLYA>
F;731-847/Region: 9-residue repeats (G-G-X-G-[DN]-D-X-[LVIYF]-X)
F;562,687/Binding site: palmitate (Lys) (covalent) #status predicted
  οy
                                                      В
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Title: Identification and expression of the Actinobacillus actinomycetemcomitans A; Reference number: A32276; MUID: 89165863 A; Accession: A32276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: GB:M27933
R;Lally, E.T.; Kieba, I.R.; Demuth, D.R.; Rosenbloom, J.; Biochem. Biophys. Res. Commun. 159, 256-262, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Note: this sequence is revised in reference A37205
R;Lally, E.T.; Golub, E.E.; Kieba, I.R.; Talchman, N.S.; Rosenbloom, J.;
J. Biol. Chem. 264, 15451-15456, 1989
A;Title: Analysis of the Actinobacillus actinomycetemcomitans leukotoxin
A;Reference number: A34345; MUID:89359382
A;Accession: B34345
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A;Accession: A60768
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A;Cross-references: GB:X16829; NID:g38643; PIDN:CAA34731.1; PID:g38645
A;Note: the authors present evidence that the nucleotide sequence is correct
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: protein A; Residues: 2-6, 'L', 8-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: DNA
A;Residues: 1-239,'Y',241-259,'H',261-335,'A',337-415,'S',417-438,'S',440-723,'N',725
PVKRYPLRHCRPITTTTTQIR' <LAL>
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A; Residues: 297-309,'Y', 311-364;434-440,'KC', 443-474,'H', 476-489,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sing nucleotide
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A; Residues: 430-438,'S',440-476,'R',478-506,'RVRS',511,'QSTAINSLNTD',523-541,'I',543,
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Best Local S
Matches 202
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174 IGLTERGIVLSAPQIDKLLQKTK-AGQALGSAESIVQNANKAKTVLSGIQSILGSVLAGM 232
                                                      44
                                                                                                      KTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLGTIQTA 173
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                                                                                                                                                             Conservative
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                                                      ----KKGNGLTALIKAAQKLGIEVYHEGKDGPALTNGILNTGKKL
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                                                                                                                                                             86;
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Pred. No. 1.
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LGLTERGLTLFAPELDKWIQGNKHLSNSVGSTGNLTKAIDKVQSVLGTLQAFLNTAFSGM

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Science 266, 1992-1996, 1994.
A; Pittle: Fatty acylation of two internal lysine residues required for the A; Reference number: A55837; MUID:95099325
A; Contents: annotation; lysine palmitoylation
A; Note: lysine modification is performed by the hlyC gene product
A; Note: lysine modification is performed by the hlyC gene product
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R; Felmlee, T.; Pellett, S.; Welch, R.A.

J. Bacteriol. 163, 94-105, 1985
A; Title: Nucleotide sequence of an Escherichia A; Reference number: A24433; MUID:85234404
A; Accession: A24433
                                                                                                    A;Cross-references: GB:M29173; NID:g146337; PIDN:AAA23957.1; PID C;Genetics:
A;Gene: hlyA
C;Function:
A;Description: attacks blood cell membranes and causes cell lysi:
C;Superfamily: hemolysin A; hemolysin A homology
C;Keywords: calcium binding; cytolysis; exotoxin; hemolysis; lip:
F;723-851/Region: 9-residue repeats (G-G-X-G-[DN]-D-X-[LVIYF]-X)
F;563,689/Binding site: palmitate (Lys) (covalent) #status exper
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вb
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C;Date: 30-Sep-1988 #sequence_revision
C;Accession: A2443; I41280
R;Felmlee, T.; Pellett, S.; Welch, R.A.
J. Bacteriol. 163, 94-105, 1985
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: GB:M10133; GB:M12863; NID:g146377; A;Experimental source: Strain J96, O4 serotype R;Stanley, P.; Packman, L.C.; Koronakis, V.; Hughes, C. Science 266, 1992-1996, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
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                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Haertlein, M.; Schiessl, S.; Wagner, W.; Rde:
J. Cell Biol. 22, 87-97, 1983
A;Title: Transport of hemolysin by Escherichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: DNA
A; Residues: 1-1023 <FEL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
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  Query Match
Best Local S
Matches 216
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GLGTLGDKLKNIGGLDKAGLGLDVISGLLSGATAALVLADKNASTAKKVGAGFELANQVV
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  216;
                                                                                                                                                                                                                                                                                          -160.
1,'T',3,'V',5,'T',7-44 <RES>
erences: GB:M29173; NID:g146337; PIDN:AAA23957.1; PID:g146338
                        Similarity
  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --DLTFEKVKHNLVITNSKKEKVTIQNWF----READFAKEV----
                      22.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -DEKIEEIIG--QNGERITSKQ--VDDL----IAKGNGKI 528
  95;
Score 823.5; DB 1;
Pred. No. 1.7e-32;
5; Mismatches 192;
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                                                                                                                                                                          hemolysis; lipoprotein;
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                                            Length 1023;
  Indels
                                                                                                         experimental
                                                                                                                                                                                                                    lysis
  117;
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  Gaps
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                                                                                                                                                                          tandem repeat
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  16;
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A;Genome: plasmid pHly152
C;Superfamily: hemolysin A;
C;Keywords: lipoprotein
F;247-792/Domain: hemolysin
F;564,690/Binding site: pal
                                                                                                                                                                                                                                                                                                                   R; Hess, J.; Wels, W.; Vogel, M.; Goebel, FEMS Microbiol. Lett. 34, 1-11, 1986
                                                                                                                                                                         C; Genetics:
                                                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 1-1024 <HES>
                                                                                                                                                                                                                                                                                  A; Title: Nucleotide sequence of a plasmid-encoded A; Reference number: S07209
                                                                                                                                                                                                                                                                                                                                                                        C;Date: 19-Mar-1997 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                                         hemolysin A - Escherichia coli plasmid C; Species: Escherichia coli
                                                                                                                                                                                           A; Cross-references: EMBL: M14107
                                                                                                                                                                                                                                               A;Status: preliminary
                                                                                                                                                                                                                                                              A; Accession: S10056
                                                                                                                                                                                                                                                                                A; Reference number:
                                                                                                                                                                                                                                                                                                                                                        C; Accession:
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                Query Match
Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AERFKKLGYDGDNLLAEYQRGTGTIDASVTAINTALAAIAGGVSAAAA---
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MDLDEALQ-----NNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SDSKSSTLLKFVTPLLTPGEEIRE----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KA----TKDEKIEEIIGQNGERITSKQVDDLIAKGNGKITQDELSKVVDNYELLKHSKNV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SQRFKKLGYDGDSLLAAFHKETGAIDASLTRISTVLASVSSGISAAATTSLVGAPVSALV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LGNVGKGISQYIIAQRAAQGLSTSAAAAGLIASVVTLAISPLSFLSIADKFKRANKIEEY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RNAGNRLILLIPKDYK----GQGSSLNDLVRTADELGIEVQYDEKNGTAITKQVFGTAEKL
213;
                                                                                                                                                                                                                                                                                                                                                      S10056
                Similarity
Conservative
                                                                                  hemolysin A homology <HLYA> site: palmitate (Lys) (cova
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---DLTFEKVKHNLVITNSKKEKVTIQNWF-----READFAKEVPNY
                                                                                                                                      Α;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -LRPGGSSQHWSYGLRPGSGSQDWSYGLRPGGSQHWSY-GLRPGSG
              22.8%;
                                                                                                                                      hemolysin A homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     676
95;
                               Score
                                                                                  (Lys) (covalent)
                  Pred.
Mismatches
                                                                                                                                                                                                                                                                                                                                                                        25-Apr-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -RRQSGKYEYITELLVKGVDKWTVKGVQDKGS
                                                                                                                                                                                                                                                                                                                                                                                                           PH1Y152
            819;
No. 2.
                                                                                                                                                                                                                                                                                                                                     Σ
            DB 2;
?.9e-32;
196;
                                                                                                                                                                                                                                                                                                  hemolysin determinant and
                                                                                    #status
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                             Length 1024;
Indels
                                                                                    predicted
116;
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Gaps
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A; Molecule type: DNA
A; Residues: 1-208 <LAI>
A; Cross : references: EMBL: 222885; N
A; Cross : references: EMBL: 222885; N
A; Experimental source: serotype T4
A; Accession: S34236
A; Molecule type: DNA
A; Residues: 9-208 <LA2>
 A;Cross-references: EMBL:Z22886;
A;Experimental source: serotype
C;Genetics:
A;Gene: lktA
C;Superfamily: hemolysin A; hemo
                                                                                                                                                                                                                                                A; Description: DNA sequence of Pasturella haemolytica. A; Reference number: S34235 A; Accession: S34238
                                                                                                                                                                                                                                                                                                submitted to the EMBL Data Library, June 1993
                                                                                                                                                                                                                                                                                                                                                                               N; Alternate names: lktA protein C; Species: Pasteurella haemolyt. C; Date: 06-Jan-1995 #sequence_ro
                                                                                                                                                                                                                                                                                                                                         C;Accession: S34238; S34236
R;Lainson, A.F.; Aitchison, K.D.; Donachie,
                                                                                                                                                                                                                                                                                                                                                                                                                                   leukotoxin A - Pasteurella haemolytica
                                                                                                                                                                                                                                                                                                                                                                           ;Species: Pasteurella haemolytica
;Date: 06-Jan-1995 #sequence_revision
 Superfamily: hemolysin A; hemolysin A Keywords: calcium binding; cytolysis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        657
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VGNITKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLESY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TNSLDKLISSVSAFTSSNDSRNVLVAPTSMLDQSLSSLQFARGSQHWSYGLRPGSGSQDW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KILSQYNKEYSVERSV-----LITQQHWDTLIGELAG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KGLGTLGDKLKNIGGLDKAGLGLDVISGLLSGATAALVLADKNASTAKKVGAGFELANQV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KA----TKDEKIEEIIGQNGERITSKQVDDLIAKGNGKITQDELSKVVDNYELLKHSKNV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KHLNGVGNKLQNLPNLDNIGAGLDTVSGILSAISASFILSNADADTRTKAAAGVELTTKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MKIDELIKKQKSGGNVSSSELAKASIELINQLVDTVASLNNNVNSFSQQLNTLGSVLSNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MDLDEALQ-----NNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IGLTERGIVLSAPQIDKLLQK-TKAGQAL-GSAESIVQNANKAKTVLSGIQSILGSVLAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RNAGNRLILLIPKDYK----GQGSSLNDLVRTADELGIEVQYDEKNGTAITKQVFGTAEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IGLTERGYTIFAPQLDKLLQKYQKAGNILGGGAENIGDNLGKAGGILSTFQNFLGTALSS
                                                                                EMBL:Z22886; NID:g311826;
ce: serotype T15
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                     homology
   exotoxin;
                                                                                                                                                                                                                                                                                                                                             Σ
                                                                                               PIDN:CAA80500.1;
                                                                                                                                                                                         PIDN:CAA80499.1;
   hemolysis;
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lipoprotein;
                                                                                             PID: 9311827
                                                                                                                                                                                       PID:g311831
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Query Match Best Local

Similarity

22.

Score 212; DE Pred. No. 0.01 34; Mismatches

DB 1

Indels

94;

Gaps

21;

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84;

Matches

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349

AYGV-AGKSLFDDGLGAAPGVPSGRSKFSPDVLETVPAS

-PGLR-

-RPSL 394

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C;Superfamily: Cyclolysin; calmodulin-sensitive adenylate cyclase catalytic domain ho C;Keywords: calcium binding; calmodulin binding; cAMP biosynthesis; carbon-oxygen lya F;15-328/Domain: calmodulin-sensitive adenylate cyclase catalytic domain homology <AD F;25-35/Region: calmodulin binding #status predicted F;25-66/Region: nucleotide binding #status predicted F;59-66/Region: nucleotide binding #status predicted F;544-1085/Domain: hemolysin A homology <HLYA>
F;1033-1041,1042-1050,1174-1182,1289-1297,1298-1308,1316-1324,1430-1438,1556-1564/Reg
                                                                                                                                                                                                                                                                                              A;Title: Internal lysine palmitoylation in adenylate cyclase toxin from Bordetella pe A;Reference number: A55167; MUID:95025937
A;Contents: annotation; lysine palmitoylation
C;Comment: B. pertussis, the ethological agent of whooping cough, disrupts mammalian ation by host cell calmodulin of the adenylate cyclase activity of bacterial cyclolys C;Comment: Adenylate cyclase activity is activated upon binding of calmodulin in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Molecule type: protein
A;Molecule type: protein
A;Residues: 1-78',M',80,'M',82-97,'M',99-139,'M',141-178,'M',180-399
R;Hackett, M.; Guo, L.; Shabanowitz, J.; Hunt, D.F.; Hewlett, E.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Residues: 1-1706 <GLA>
A;Residues: 1-1706 <GLA>
A;Cross-references: EMBL:V00545; NID:g396665; PIDN:CAA68613.1; PID:g396666
R;Glaser, P.; Sakamoto, H.; Bellalou, J.; Ullmann, A.; Danchin, A.
EMBO J. 7, 3997-4004, 1988
A;Title: Secretion of cyclolysin, the calmodulin-sensitive adenylate cyclase--haemol A;Reference number: S02386; MUID:89091151
A;Contents: annotation; identification of adenylate cyclase--hemolysin bifunctional R;Munler, H.; Gilles, A.M.; Glaser, P.; Krin, E.; Danchin, A.; Sarfati, R.; Barzu, C Eur. J. Biochem. 196, 469-474, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Bordetella pertussis
C;Date: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 16-Jul-1999
C;Accession: S00893; S14100; S02389
R;Glaser; P; Ladant, D; Sezer; O; Pichot, F; Ullmann, A; Danchin, A.
Mol. Microbiol. 2, 19-30, 1988
A;Title: The calmodulin-sensitive adenylate cyclase of Bordetella pertussis A;Reference number: S00893; MUID:88216178
A;Accession: S00893
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                                                                                                                                                                                                                                              A; Gene: cyaA; cya
                                                                                                                                                                                                                                                                                 C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Title: Isolation and characterization of catalytic and A; Reference number: S14100; MUID: 91177021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N; Alternate names: N; Contains: adenyl;
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A; Residues: 1-1706
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983/Binding
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     - Bordetella pertussis names: adenylate cyclase precursor; calmodulin-sensitive adenylate adenylate cyclase (EC 4.6.1.1), calmodulin-sensitive; hemolysin
   site: palmitate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
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Pred. No. 2.1
   (covalent)
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yright. It is of Bioinforma Institute. The tions as long is not removed agreement (See isb-sib.ch).	RANE DOMAIN BY THE CYTO THE TOXIN RTX PROKARY	TED. IS PROBABLY FOR TARGET CE	M N.A. L101; d=2185213; M.J., Weinstock G.M.; Dn of the Pasteurella haer 2350(1990). HEMOLYSINS ARE EXOTOXINS CAUSE CELL RUPTURE BY MECI	97120; m M., Engler M.J., rella haemolytica	440588; Shewen P.E.; leukotoxin genes	gamma subdivision;	ed) sequence update) annotation update)	PRT; 953 AA.	ALIGNMENTS	FLIC_SALBE WIGN_ACACA WIGN_ACACA WIGN_ACACA WIGN_ACACA WSP1_PLAFC WSP1_PLAFC WSP1_PLAFC WSP1_CAEEL WCPA_CAUCR TALI_MOUSE WICN_MOUSE VACO_HELPY CA1E_CHICK
produced through a collaboration tics and the EMBL outstation ere are no restrictions on its as its content is in no way usage by and for commercial http://www.isb-sib.ch/announce/	BELIEVED TO (BY SIMILA) BECOMES ACT FOXIN FAMIL)	X INVOLVED IN BINDING CELL-BINDING OR CYTOLYTIC	haemolytica Leukotoxin."; XINS THAT ATTACK BLOOD MECHANISMS NOT CLEARLY	leukotoxin gene	of Pasteurella	Pasteurellaceae;				Q06968 salmonella P05659 acanthamoeb P40442 saccharomyc P18771 bacteriopha P04934 plasmodium P50495 plasmodium Q09624 caenorhabdi Q00986 caulobacter P26039 mus musculu P02535 mus musculu P5981 helicobacte P32018 gallus gall

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L; M24197; AAA2554
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VGSGTTEIDGGEGYDRVHYSRGNYGALTIDATKETEQGSYTVNRFVETGKALHEVTSTHT
                                     KLNINRVDSWKITDGAASSTFDLTNVVQRIGIELDNAGNVTKTKETKIIAKLGEGDDNVF
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MEDLINE-94041617; PubMed-8225575;
BURYONS L.L., Olah-Winfield E., LO R.Y.C.
"Molecular analysis of the leukotoxin det-
haemolytica serotypes 1 to 16.";
Infect. Inmun. 61:5001-5007(1993).
-!- FUNCTION: BACTERIAL HEMOLYSINS ARE EX-
CELL MEMBRANES AND CAUSE CELL RUPTURE
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P55118;
                                                                                                                                                                                                                                                                                use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
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SUBGELIUJAR LOCATION: SECRETED.
DOMAIN: THE GLY-RICH REGION IS
CALCIUM, WHICH IS REQUIRED FOR
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DOMAIN: THE THREE TRANSMEMBRANE DOMAINS ARE
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                                                                                                                                                                                                                                                                                                                                                                                                              SGSQDWSYGLRPGGSSFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQRE 155
         KIEEIIGQNGERITSKQVDDLIAKGNGKITQDELSKVVDNYELLKHSKNVTNSLDKLISS
                                 TIDGKDGNDRLFGGKGDDIIDGGNGDDFIDGGKGNDLLHGGKGDDIFVHRQGDGNDIITD
                                                                                                    ALVGNREEKIEYRHSNNQHHAGYYTKDTLKAVEEIIGTSHNDIFKGSKFNDAFNGGDGVD
                                                                                                                                    VGSGTTEIDGGEGYDRVHYSRGNYGALTIDATKETEQGSYTVNRFVETGKALHEGTSTHT
                                                                                                                                                                      KLNINRVDSWKITDGAASSTFDLTNVVQRIGIELDNAGNVTKTKETKIVAKLGAGDDNVF
                                                                                                                                                                                                       EEGKHLKADKLVQLDSANGIIDVSNSGKAKTQDILFRTPLLTPGTDDRERVQTGKYEYIT
                                                                                                                                                                                                                                         RYLANLQDNMKFLLNLNKELQAERVIAITQQQWDNNIGDLAGISRLGEKVLSGKAYVDAF
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                                                                                                                                                                                                                                                                                                                     KFNHAKSLESYAERFKKLGYDGDNLLAEYQRGTGTIDASYTAINTALAAIAGGVSAAA--
                                                                                                                                                                                                                                                                                                                                                                              INQLGSKLQNVKGLSSLGDKLKGLSGFDKTSLGLDVVSGLLSGATAALVLADKNASTSRK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 46.0
35; Conservative
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pred. No. 6.1e
24; Mismatches
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5.1e-87;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CRC64;
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RESULT 3
LKA3_PASHA
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Query Match
Best Local S
Matches 413
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P55116;
01-OCT-1996
01-OCT-1996
30-MAY-2000
                                                                 REPEAT
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REPEAT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
STRAIN-SEROTYPE T3;
MEDLINE-94041617; PubMed-8225575;
BUTTOWS L.L., LO R.Y.C., Olah-Winfield E.;
BUTTOWS L.L., LO R.Y.C., Olah-Winfield E.;
"Molecular analysis of the leukotoxin determinants from haemolytica serotypes 1 to 16.";
Infect. Immun. 61:5001-5007(1993).
-i- FUNCTION: BACTERIAL HEMOLYSINS ARE EXOTOXINS THAT AT CELL MEMBERANES AND CAUSE CELL RUPTURE BY MECHANISMS
                                                                                                                                                         TRANSMEM
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DOMAIN
                                                                                                                                                                                                                                                                                                                use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboratic between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no was non-profit institutions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pasteurella haemoıyııı....
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REPEAT
                                                                                                                                                                                                                                                             EMBL; U01216; AAB36691.1; -. HSSP; P02392; ICTF. INTERPRO; IPR001343; -.
                                                                                                                                                                                                              Transmembrane;
                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pasteurella
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                                                                                                                                                                                                                         lemolysis; Toxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        920
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DOMAIN: THE THREE TRANSMEMBRANE DOMAINS ARE BELIEVED TO BE INVOLVED IN PORE FORMATION BY THE CYTOTOXIN (BY SIMILARITY) PTM: PALMITOYLATED BY LKTC. THE TOXIN ONLY BECOMES ACTIVE WI MODIFIED (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBCELLULAR LOCATION: SECRETED DOMAIN: THE GLY-RICH REGION IS CALCIUM, WHICH IS REQUIRED FOR
                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY: BELONGS TO THE RTX PROKARYOTIC TOXIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINED
 413;
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                                                                                                                                                                                                          PF00353; hemolysinCabind; 1.
TE; PS00330; HEMOLYSIN_CALCIUM; 2.
ysis; Toxin; Cytolysis; Cytotoxin; membrane; Lipoprotein; Palmitate.
              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Rel. 34, Created)
(Rel. 34, Last sequence up)
(Rel. 39, Last annotation)
FROM SEROTYPE T3.
Conservative
                                                                                         ; Lipoprotein;
249
318
97 318
401
81 401
81 784
34 739
34 748
52 757
76 766
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            49.8%;
                                                                  101948
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 38;
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POTENTIAL.
POTENTIAL.
6 X REPEATS,,
             Score
Pred.
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Mismatches
                                                                  FDBDCE2FDC85FDF2 CRC64;
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             1789;
No. 9.
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                                                                                                                                                                                                                         Repeat;
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             DB 1;
.2e-82;
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                                                                                                                                                          GLY-RICH
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                                                                                                                                                                                                                         Calcium;
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                       Length
Indels
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OR CYTOLYTIC
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L outstation -
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Gaps
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104

GLRPGGSSFP------KTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREER 157

GLNRAGQSLTQAGQTLKNGVKKIILYIPKDYKYDSGSGNGLQDLVKAAEELGIEVQKEEG

Вþ

158 82

217

Pasteurella. [1]

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LKAA_PASHA
P55117;
01-OCT-1996
01-OCT-1996
30-MAY-2000
                                                          01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
LEUKOTOXIN FROM SEROTYPE T10.
  Pasteurella
Bactería; Pı
                                                                                                                                                                                                                                                                 AFTSSNDSRNVLASPTSMLDPSLSSIQFARAA 953
                                                                                                                                                                                                                                                                                                                                                                                                                        GNDKLSFSDSNLKDLTFEKVNHHLVITNTKQEKVTIQNWFREAEFAKTIQNYVATRDDKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GQHLKADKLVQLDSAKGIIDVSNTGEAKTQHILFRTPLLTPGTEKRERVQTGKYEYITKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NHAKSLESYAERFKKLGYDGDNLLAEYQRGTGTIDASYTAINTALAAIAGGYSAAAA---
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                                                                                                                                                                                                                                                                                       AFTSSNDSRNVLVAPTSMLDQSLSSLQFARGS
                                                                                                                                                                                                                                                                                                                                           EEIIGQNGERITSKQVDDLIAKGNGKIAQSELTKVVDNYQLLKYSRDASNSLDKLISSAS
                                                                                                                                                                                                                                                                                                                                                            EEIIGQNGERITSKQVDDLIAKGNGKITQDELSKVVDNYELLKHSKNVTNSLDKLISSVS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VGNREEKIEYRHSNNQHHAGYYTKDTLKAVEEIIGTSHNDIFKGSKFNDAFNGGDGVDTI 741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SGTTEIDGGEGYDRVHYSRGNYGALTIDATKEPEQGSYTVNRFVESGKALHEVTSTHTAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGFELANQVVGNITKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKF
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  Proteobacteria;
                      haemolytica
                                                                                                                                                               STANDARD;
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gamma
subdivision;
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  Pasteurellaceae;
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AMEL; 226247; CARABIO6.1; -
INTERPRO; IPRO01343; -.
INTERPRO; IPRO01343; -.
PRAM; PF00353; hemolysinCabind; 1.
PRAM; PF00353; CARMDURGRET.

PROSITE; PS00330; HEMOLYSIN_CALCIUM; 4.
KW PROSITE; PS00330; HEMOLYSIN_CALCIUM; 4.
KW Hemolysis; Toxin; Cytolysis; Cytotoxin; Rep.
KW Transmembrane; Lipoprotein; Palmitate.
FT TRANSMEM 299 319 POTENTIAL.
TRANSMEM 361 361 POTENTIAL.
TRANSMEM 363 403 POTENTIAL
TRANSMEM 383 403 POTENTIAL
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-!- FUNCTION: BACTERIAL HEMOLYSINS ARE EXOTOXINS THAT ATTACK BLOOD CELL MEMBRANES AND CAUSE CELL RUPTURE BY MECHANISMS NOT CLEARLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lainson F.A., Murray J., Davies R.C., Donachie W.; "Characterization of epitopes involved in the neutralization Pasteurella haemolytica serotype Al leukotoxin.";
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STRAIN=SEROTYPE T10;
MEDLINE=96425875; PubMed=8828217;
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                  AGFELANQVVGNITKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKF
                                                                            QFGSKLQNVKGLGALGDKLKNIGGLDKAGLGLDVKSRLLSGATAALVLADKDASTAKKVG
                                                                                                 QFGSKLQNIKGLGTLGDKLKNIGGLDKAGLGLDVISGLLSGATAALVLADKNASTAKKVG
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AGFELANQVVGNITKAVSSYILAQRVAAGLSSTGPVAALIASTVAVAISPLSFAGIADKF
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43.5%; Pred. No. 1e-79;
tive 41; Mismatches
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P55123;
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                                                                                                                                                                                     Pasteurella haemolytica-like
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                                                                                               Chang Y.-F., Ma D.-P., Shi J., Chengappa M.M.; "Molecular characterization of a leukotoxin gene haemolytica-like organism, encoding a new member
                                                                                                                                                                Pasteurella.
                                                                                                                                                                            Bacteria;
                                                                                                                                                                                                 LKTA.
                                                                                                                                                                                                            LEUKOTOXIN
                                                     Infect. Immun. 61:2089-2095(1993).
-!- FUNCTION: VIRULENCE FACTOR WHICH
IS NOT HEMOLYTIC.
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                    SUBCELLULAR LOCATION: SECRETED.

DOMAIN: THE GLY-RICH REGION IS PROBABLY INVOLVED IN
CALCIUM, WHICH IS REQUIRED FOR TARGET CELL-BINDING
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AFTSSNDSRNVLASPTSMLDPSLSSIQFARAA 955
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SIMILARITY: BELONGS TO THE RTX PROKARYOTIC TOXIN FAMILY
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PROSITE; PS00330; HEMOLYSIN_CALCIUM;

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01-APR-1993
01-APR-1993
30-MAY-2000
HEMOLYSIN (C)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-APR-1993 (Rel. 25, Created)
01-APR-1993 (Rel. 25, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
HEMOLYSIN (CYTOLYSIN II) (CLY-IIA) (HLY-IIA,
APPA OR CLYIIA OR HLYIIA OR CYTC.
Actinobacillus suis.
                                                     entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                               the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con
                                                                                                                                                                                                                                                                                                                           "Molecular characterization of an RTX toxin determinant Actinobacillus suis."; Infect. Immun. 60:2166-2173(1992).
                            EMBL; M90440; AAA21918.1;
             INTERPRO;
                                                                                                                           between
                                                                                                                                                                                                                                                                                                                                                                      Burrows L.L., Lo R.Y.;
                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=92267623; PubMed=1587585;
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DOMAIN: THE THREE TRANSMEMBRANE DOMAINS ARE INVOLVED IN PORE FORMATION BY THE CYTOTOXIN PTM: PALMITOYLATED BY LKTC. THE TOXIN ONLY B
                                                                                                                                                                                                                                                                     SUBCELLULAR LOCATION: SECRET DOMAIN: THE GLY-RICH REGION
                                                                                                                                                                                                                                                                                              FUNCTION: ONE OF THE VIRULENCE FACTORS OF A.SUIS. MIGHT E SECRETED CYTOTOXIN, POSSIBLY THE EXTRACELLULAR HEMOLYSIN.
                                                                                                                                                                     SIMILARITY: BELONGS TO THE RTX PROKARYOTIC TOXIN FAMILY.
                                                                                                                                                                                                                                                         CALCIUM, WHICH IS
                                                                                                                                                                                    MODIFIED (BY SIMILARITY)
                                                                                                                         SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SAFTSSNDSRNVLVAPTSMLDQSLSSLQFARGS 593
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GAFASSNDNRVGLGVPTSLYEHT-QSVQFVRAA 947
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hemolysinCabind;
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                KIEYRREDDRFHTGYTVTDSLKSVEEIIGSQFNDIFKGSQFDDVFHGGNGVDTIDGNDGD
                                                                                            SWTVTVGDASSSVDFTNVVQRIAVKFDDAGNIIESKDTKIIANLGAGNDNVFVGSSTTVI
                                                                                                                                   SIHPYSIDNKNGIINISNTNRKTQSVLFRTPLLTPGEENRERIQEGKNSYITKLHIQRVD
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                                                      DGGDGHDRVHYSRGEYGALVIDATAETEKGSYSVKRYVGDSKALHETIATHQTNVGNREE
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POTENTIAL.
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Pred. No. 8.4e-56;
5; Mismatches 100;
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RESULT 7
RT2A_ACTPL
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STRAIN-SEROTYPE 5;
MEDLINE-9012623; PubMed-2693022;
Chang Y.-F., Young R., Struck D.K.;
"Cloning and characterization of a |
(Haemophilus) pleuropneumoniae.";
INTERPRO; IPR001343; -.

PFAM: PF00353; hemolysinCabind; 1.

PROSITE; PS00330; HEMOLYSIN_CALCIUM;

PROSITS; Toxin; Cytolysis; Cytotoxi
                                                                                                                                                                                                      This SWI
between
                                                                                                                               modified and this statement is not removed entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                        INFECT. IMMUN. 59:4497-4504(1991).

-IF FUNCTION: ONE OF THE VIRULENCE FACTORS OF A PLEUROPHEUMONIA WHICH SHOWS A WEAK HEMOLYTIC ACTIVITY AND IS MODERATELY CYTFOR ALVEOLAR MACROPHAGES AND NEUTROPHILS.

-I SUBCELLULAR LOCATION: SECRETED.

-I DOMAIN: THE GLY-RICH REGION IS PROBABLY INVOLVED IN BINDING CALCIUM, WHICH IS REQUIRED FOR TARGET CELL-BINDING OR CYTOL ACTIVITY (BY SIMILARITY)

-I DOMAIN: THE THREE TRANSMEMBRANE DOMAINS ARE BELIEVED TO BE INVOLVED IN PORE FORMATION BY THE CYTOTOXIN (BY SIMILARITY)

-I PTM: PALMITOYLATED BY APXIIC. THE TOXIN ONLY BECOMES ACTIVE MODIFIED (BY SIMILARITY)

-I SIMILARITY: BELONGS TO THE RTX PROKARYOTIC TOXIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-ISOLATE CVI 13261
MEDLINE-92040145; PubMed-
Smits M.A., Briaire J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA 8:635-647(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-APR-1990 (Rel. 14, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
RTX-II TOXIN DETERMINANT A (APX-IIA) (HEMOLYSIN
                                                            EMMBL; M30602; AAA87232.1; -.
EMMBL; X61111; CAA43423.1; -.
PIR; B33389; B3389.
PIR; S18853; S18853.
                                                                                                                                                                          use
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Actinobacillus pleuropneumoniae (Haemophilus Bacteria; Proteobacteria; gamma subdivision;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (CYTOLYSIN IIA) (CLY-IIA).
APXIIA OR CLYIIA OR HLYIIA OR APPA OR CYTC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-APR-1990
01-APR-1990
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Infect. Immun. 61:947-954(1993).

-1- FUNCTION: DOES NOT HAVE HEMOLYTIC ACTIVITY BUT
                                              Lipoprotein;
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
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EMBL; X68815; CAA48711.1;
INTERPRO; IPRO01343; -.
                                                                                                                                                                modified and this statement
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30-MAY-2000
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s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                  CYTOTOXICITY TOWARDS ALVEOLAR MACROPHAGES SUBCELLULAR LOCATION: SECRETED.
DOMAIN: THE GLY-RICH REGION IS PROBABLY IN
                                                                                                                                                                                                                                      INVOLVED IN PORE FORMATION BY THE CYTOTOXIN PTM: PALMITOYLATED BY APXIIIC. THE TOXIN ONI MODIFIED (BY SIMILARITY).
                                                                                                                                                                                                                                                                    DOMAIN: THE GLY-RICH REGION IS PROBABLY INVOLVED IN BINI CALCIUM, WHICH IS REQUIRED FOR TARGET CELL-BINDING OR CYACTUVITY (BY SIMILARITY).

DOMAIN: THE THREE TRANSMEMBRANE DOMAINS ARE BELIEVED TO
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(Rel.
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gamma subdivision;
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SEROTYPE 8 (
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                                                                 3.
Calcium;
                                                                                                                                                     (See
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               GLY-RICH
                                                                                                                                                     http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pleuropneumoniae).
Pasteurellaceae;
                                                                  Transmembrane;
                                                                                                                                                                                                                                                            (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                        T SHOWS A STRONG NEUTROPHILS.
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                                                                                                                                                                                                                                                                                          N BINDING
OR CYTOLYTIC
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Best Local
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P55130;
01-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REPEAT
                                                                                                          01-OCT-1996 (Rel. 34, Last 30-MAY-2000 (Rel. 39, Last RTX-III TOXIN DETERMINANT IIIA) (CLY-IIIA).
              MEDLINE=93263992; Pu
Chang Y.-F., Shi J.,
                                  SEQUENCE FROM N. STRAIN-SEROTYPE
                                                                                                                                                                                     ACTPL
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REPEAT
                                                                           Actinobacillus pleuropneumoniae (Haemophilus Bacteria; Proteobacteria; gamma subdivision;
                                                                                                APXIIIA OR CLYIIIA OR RTXA OR PTXA.
                                                                 Actinobacillus
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                                                                                                                   (Rel. 34, Last sequence update)
(Rel. 39, Last annotation update)
IN DETERMINANT A FROM SEROTYPE 2 (
                                                                                                                                                     (Rel.
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STANDARD;

PRT;

1049

A

2 (APX-IIIA)

(CYTOLYSIN

Pasteurellaceae; pleuropneumoniae) 34, Created)

2; A

PubMed=8494611;

Ma D.-P.,

Shin

S.J.,

Lein

D.H.;

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109 GSSFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLG
                                                                                                                                                                                                                                 QVVGNITKAVSSYILAQRVAAGLSSTGPVAALIASTVSLAISPLAFAGIADKFNHAKSLE.
                                                                                                                                                                                                                                                                        GKAVQKYG-NKLVLVIPK--EYDGSVGNGFFDLVKAAEELGIQVKYVNRNELEVAHKSLG
KLLEKKPDDFSKVV--FDPTKGEIDISNSQTSTLLKFVTPL--LTPGTESR 564
                                                   SLLSSFNKQYETERAVLITQQRWDEYIGELAG----ITGK--GDKLSSGKAYVDYFQEG
                                                                               ---ADFAKEVPNYKATK-----DEKIEEIIGQNGERITSKQVDDLIAKG-----
                                                                                                                                                                                         SYAERFKKLGYDGDNLLAEYQRGTGTIDASVTAINTALAAIAGGVSAAAAD-----
                                                                                                                                                                                                                    QVIGGITKAVSSYILAQRLAAGLSTTGPAAALIASSISLAISPLAFLRVADNFNRSKEIG
                                                                                                                                                                                                                                                                                                                               TVLAGINLNEAIISGGSELELAEAGVSLASELVSNIAKGTTTIDAFTTQIQNFGKLVENA
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                         KITQ---DELSKYVDNYELLKHSKNVTNS----LDKLISSVSAFTSSNDSR
                                                                                                          LVTGITGLISGILEFSKQPMLDHVASKIGNKIDEWEKKYGKNYFENGYDARHKAFLEDSF
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No. 2.2e-40;
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EMBL; X80056; CAB37652.1;
INTERPRO; IPR001343; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             operons: characterization of the ApxIII Infect. Immun. 62:4411-4418(1994).
-!- FUNCTION: DOES NOT HAVE HEMOLYTIC AC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entities requires a license agreement (some send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 modified and this statement is not entities requires a license agreeme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 use
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Molecular analysis of the Actinobacillus pleuropneumoniae RTX toxin-III gene cluster.":
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lipoprotein;
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DOMAIN: THE THREE TRANSMEMBRANE DOMAINS ARE BELIEVEL INVOLVED IN PORE FORMATION BY THE CYTOTOXIN (BY SIMILARY CANADAL CONTRACTOR OF THE CONTRACTOR OF THE CYTOTOXIN (BY SIMILARY CANADAL CANADAL CONTRACTOR OF THE CYTOTOXIN (BY SIMILARY CANADAL C
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         European
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                                                                                                                                                                                                         GSSFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKAAEELGIEVQREERNNIATAQTSLG 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SWISS-PROT entry is copyright. It is produced through
een the Swiss Institute of Bioinformatics and the EI
TVLAGINLNEAIISGGSELELAEAGVSLASELVSNIAKGTTTIDAFTTQIQNFGKLAENA
                                                                                                                                                                                    GKAVQKYG-NKLVLVIPK--EYDGSVGNGFFDLVKAAEELGIQVKYVNRNELEVAHKSLG
                                             SVLAGMDLDEALQNNSNQHALAKAGLELTNSLIENIANSVKTLDEFGEQISQFGSKLQNI
                                                                                                                                       TIQTAIGLTERGIVLSAPQIDKLLQK-TKAGQALGSAE-SIVQNANKAKTVLSGIQSILG
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                                                                                          Bioinformatics Institute.
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12:351-362(1993).
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                                                                                                                                                                                                                                                                            Mismatches
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No. 1.5e-39;
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Calcium;
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                                                                                                                                                                                                                                                                         137;
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P55128;
                                                 Chang Y., Chin N.;
Submitted (JAN-1994) to the EMBL/GenBank/DDBJ
-i- FUNCTION: ONE OF THE VIRULENCE FACTORS OF
WHICH HAS A STRONG HEMOLYTIC ACTIVITY AND
                                                                                                                                                                                                                                            STRAIN-S 4074 / SEROTYPE 1;
MEDLINE-94237497; PubMed-#181764;
MEDLINE-94237497; Nicolet J., Boffi
Frey J., Haldimann A., Nicolet J., Boffi
"Sequence analysis and transcription of
from Actinobacillus pleuropneumoniae.";
Gene 142:97-102(1994).
                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=91348845; PubMed=1879928; Frey J., Meier R., Gygi D., Nicolet J.; "Nucleotide sequence of the hemolysin I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
RTX-I TOXIN DETERMINANT A FROM SEROTYPES 1/9
(HLY-IA) (CYTOLYSIN IA) (CLY-IA).
APXIA OR CLYIA OR HLYIA.
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                                                                                                                                                                             STRAIN=ISOLATE CVI 13261 / SEROTYPE MEDLINE=93366425; PubMed=8359891; Jansen R., Briaire J., Kamp E.M., G
                                                                                                                                                                                                                                                                                                                                                               "Nucleotide sequence pleuropneumoniae.";
                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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Bacteria; Proteobacteria; gamma
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                                                                                                                                                  "Structural analysis of the [ApxI) operon."
                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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ALVEOLAR MACROPHAGES AND NEUTROPHILS.
SUBCELLULAR LOCATION: SECRETED.
DOMAIN: THE GLY-RICH REGION IS PROBAE
CALCIUM, WHICH IS REQUIRED FOR TARGET
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4074 / SEROTYPE 1;
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Actinobacillus pleuropneumoniae-RTX-toxin
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PROBABLY INVOLVED IN TARGET CELL-BINDING
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IS CYTOTOXIC FOR
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MISCELLANEOUS: APXIA IS PARTIALLY DELETED IN SEROTYPE 3.
8, 12, AND TOTALLY DELETED IN SEROTYPE 3.
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Q -> E (IN REF. 3 AND 4).
TC -> R (IN REF. 3 AND 4).
MW; F99A88CFC9F1A598 CRC64;
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P55129; O1-OCT-1996 (Rel. 34, Created)

O1-OCT-1996 (Rel. 34, Last sequence update)

30-MAY-2000 (Rel. 39, Last annotation update)

RTX-I TOXIN DETERMINANT A FROM SEROTYPES 5/10 (AUC)

CHLY-IA) (CYTOLYSIN IA) (CLY-IA).
                                                                                                                                                                                                                                                                                                         Chin N., Frey J., Chang C.r., Chang "Identification of a locus involved Actinobacillus pleuropneumoniae.";
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                                                                                                                                                                                                                                                       SEQUENCE OF 886-1023 FROM N.A. STRAIN-K17 / SEROTYPE 5:
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                                                                                                                                                                                                                                                                                                                                                                                                                   Nagai S., Yagihashi T., Ishihama A.;
"DNA sequence analysis of an allelic variant of the Actinobacillus pleuropneumoniae-RTX-toxin I (ApxIA) from serotype 10.";
Microb. Pathog. 15:485-495(1993).
                                                                                                                                Infect Immun. 61:3688-3695(1993).
-- FUNCTION: ONE OF THE VIRULENCE FACTORS WHICH HAS A STRONG HEROLYTIC ACTIVITY A ALVEOLAR MACROPHAGES AND NEUTROPHILS.
                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A
STRAIN-K17 / SEROS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=13039 / SEROTYPE 10;
MEDLINE=94276858; PubMed=8007819,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Actinobacillus pleuropneumoniae (Haemophilus Bacteria; Proteobacteria; gamma subdivision;
                                                                                                                                                                                           I (ApxI) operon."
                                                                                                                                                                                                           Jansen R., Briaire J., Kamp E.M., Gielkens "Structural analysis of the Actinobacillus
                                                                                                                                                                                                                                       MEDLINE=93366425; PubMed=8359891;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A
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ACTIVITY.

DOMAIN: THE THREE TRANSMEMBRANE DOMAINS ARE INVOLVED IN PORE FORMATION BY THE CYTOTOXIN PTM: PALMITOYLATED BY APXIC. THE TOXIN ONLY
                                                                         SUBCELLULAR LOCATION: SECRETED.
SUBCELLULAR LOCATION: SECRETED.
DOMAIN: THE GLY-RICH REGION IS PROBABLY INVOLVED IN BINDING
CATCHIM WHICH IS REQUIRED FOR TARGET CELL-BINDING OR CYTOL
MISCELLANEOUS:
              MODIFIED (BY SIMILARITY)
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APXIA IS PARTIALLY DELETED
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Pasteurellaceae;
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IN SEROTYPES 2,
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EMBL; U04954; AAB17220.1; -.
EMBL; X73116; CAA51546.1; -.
INTERPRO; IPRO01343; -.
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MISCELLANEOUS: THE SEQUENCE SHOWN IS THAT OF SEROTYPE 10
SIMILARITY: BELONGS TO THE RTX PROKARYOTIC TOXIN FAMILY.
                 ASTVSLAISPLAFAGIADKENHAKSLESYAERFKKLGYDGDNLLAEYQRGTGTIDASVTA 437
                                                  SAESIVQNANKAKTVLSGIQSILGSVLAGMDLDEALQNNSNQH-----ALAKAGLELTNS
                                                                                                                                                      AEELGIEVQREERNNIATAQTSLGTIQTAIGLTERGIVLSAPQIDKLLQKT-KAGQAL-G
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                                                                                                                                                                                          SQHWSYGLRPGSGSQDWSYGLRPGGSSFPKTGAKKIILYIPQNYQYDTEQGNGLQDLVKA 144
        GSVVALAISPLSFLNVADKFERAKQLEQYSERFKKFGYEGDSLLASFYRETGAIEAALTT
                                                                          LVDNIASATGTVDAFAEQLGKLAMPYLTL-ALSGLASKLNNLPDLSLAGPGFDAVSGILS
                                                                                    LIENIANSVKTLDEFGEQISQFGSKLQNIKGLGTLGDKLKNIGGLDKAGLGLDVISGLLS
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91; Mismatches
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TC -> R (IN REF. 2).
F -> L (IN REF. 2).
MW; 183C7C15EE57DB55 (
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Palmitate.
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13 X REPEA
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EMBL; X02768; CAA2654
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PF00353; hemolysinCabind;
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SEQUENCE FROM N.A.
STRAIN-J96 / SEROTYPE 04;
STRAIN-B85234404; PUDMed=3891743;
MEDLINE-85234404; Pubmed=3891743;
MEDLINE-8524404; Pubmed=3891743;
MEDLINE-8524404; Pubmed=3891743;
MEDLINE-8524404; Pubmed=3891743;
MEDLINE-8524404; Pubmed=8524404;
MEDLINE-8524404; Pubmed=8524
                                                                                                                            use by non-profit institutions as long modified and this statement is not removed entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of haemolysin from E. coli 2001.";
FEBS Lett. 187:339-344(1985).
-!- FUNCTION: BACTERIAL HEMOLYSINS ARE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN-200
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Characterisation of HlyC and mechanism
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                                                                                                                                                                    KA----
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                                                                                                                                                          TKDEKIEEIIGQNGERITSKQVDDLIAKGNGKITQDELSKVVDNYELLKHSKNV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -DLTFEKVKHNLVITNSKKEKVTIQNWF-----READFAKEVPNY
                                 LRPGGSSQHWSYGLRPGSGSQDWSYGLRPGGSQHWSY-GLRPGSG
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PALMITATE (BY SIMILARITY).
A -> T (IN STRAIN 2001).
MW; 196D5C0A9A28B54D CRC64
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. No. 7.6e-34;
ismatches 192;
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RRQSGKYEYITELLVKGVDKWTVKGVQDKGS
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RESULT
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HLYA_ECOLI

P08715;

01-JAN-1988

01-JAN-1988

01-JAN-2000

HEMOLYSIN, P
PROSITE; PS00330; HEMOLYSIN_CALCIUM; 4.
Hemolysis; Toxin; Cytolysis; Cytotoxin; Repeat;
Transmembrane; Lipoprotein; Palmitate; Plasmid
TRANSMEM 238 260 POTENTIAL.
TRANSMEM 268 327 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                      J. Bacteriol. 178:5422-5430(1996).
-:- FUNCTION: BACTERIAL HEMOLYSINS ARE EXOTOXINS THAT ATTACK BLOOD CELL MEMBRANES AND CAUSE CELL RUPTURE BY MECHANISMS NOT CLEARLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Fatty acylation of two internal lysine residue toxic activity of Escherichia coli hemolysin."; Science .266:1992-1996(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entrepean Bioinformatics Institute. There are no restiuse by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                       PALMITOYLATION AT LYS-564 AND LYS-690 MEDLINE=96404790; PubMed=8808931; Ludwig A., Garcia F., Bauer S., Jarch
                                                                   INTERPRO; IPRO
PFAM; PF00353;
                                                                                                             entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                    use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                     + +
                                                                                                                                                                                                                                                                                                                                                                                       "Analysis of the Escherichia coli.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PALMITOYLATION AT LYS-564 AND LYS-690 MEDLINE=95099325; PubMed=7801126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 its comparison with a corresponding chromosomal FEMS Microbiol. Lett. 34:1-11(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Plasmid IncI2 pHLY152.
Bacteria; Proteobacteria;
                                                        PRINTS; PR00313; CABNDNGRPT
                                                                                         EMBL; M14107; AAA98233.1;
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                                                                                                                                                                                                                           MODIFIED.
DISEASE: THE HEN
STRAINS CAUSING
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                                                                               IPR001343;
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38 (Rel. 0
30 (Rel. 3
PLASMID.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     coli
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                                                                  hemolysinCabind;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                       BELONGS TO THE RTX PROKARYOTIC TOXIN FAMILY
                                                                                                                                                                                                                              HEMOLYSIN OF E.COLI
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Last annotation updat
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                                   Repeat;
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LKTA_ACTAC STANDARD;
P16462;
01-AUG-1990 (Rel. 15, Created)
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                                                                                                                                                                                                                                                                                                                                          LVKGVDKWTVKGVQDKGAVYDYS-----NLIQHASVG
                                                                                                                                                                                                                                                                                                         AERFKKLGYDGDNLLAEYQRGTGTIDASVTAINTALAAIAGGVSAAAA----
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                                                                                                                -ARGSQHWSY-GLRPGSGSQDWSYGLRPGGSSQHWSYG
                                                                                                                                         RLEKKXDEFQKQVFDPLKGNIDLSDSKSSTLLKFVTPLLTPGEEIRERRQSGKYEYITEL
                                                                                                                                                                HSKNVTNSLDK-LISSVSAFTSSNDSRN-----VLVAPTSMLDQSLSSLQF-----
                                                                                                                                                                                         KILSQYNKEYSVERSV-----LITQQHWDTLIGELAGVTRNGDKTLSGKS-YIDYYEEGK
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35.8%;
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Pred. No. 1.2e-33;
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PALMITATE.
PW; 83944917F76C945B CRC64;
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Lally E.T., Golub E.E., Kieba I.R., Taichman N.S., Rosenbloom J.
Rosenbloom J.C., Gibson C.W., Demuth D.R.;
"Analysis of the Actinobacillus actinomycetemcomitans leukotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LKTA OR LTA.
Actinobacillus actinomycetemcomitans (Haemophilus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-AUG-1990 (Rel.
30-MAY-2000 (Rel.
                                                                                                                                                                                                                                                                                                       Hemolysis;
                                                                                                                                                                                                                                                                                                                 PROSITE;
                                                                                                                                                                                                                                                                                                                              PFAM; PF00353; hemolysinCabind; PRINTS; PR00313; CABNDNGRPT.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                toxins.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the Ewropean Bioinformatics Institute. There are no restropy by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN: THE THREE TRANSMEMBRANE DOMAINS ARE INVOLVED IN PORE FORMATION BY THE CYTOTOXIN PTM: PALMITOYLATED BY LKTC. THE TOXIN ONLY B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BIOL. Chem. 264:15451-15456(1989).
FUNCTION: ONE OF THE VIRULENCE FACTORS OF A.ACTINOMYCETEMCOMITANS MIGHT BE A CYTOTOXIN, POSSIBLY THE MEMBRANE-BOUND HEMOLYSIN.
SUBCELLULAR LOCATION: OUTER-MEMBRANE ASSOCIATED OR SECRETED (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOME NON-HUMAN CELLS OF THE MONOMYELOCYTIC LINEAGE.
SIMILARITY: BELONGS TO THE RTX PROKARYOTIC TOXIN FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MODIFIED (BY SIMILARITY).

DISEASE: ITS TARGET CELL SPECIFICITY IS RESTRICTED TO HUMAN SOME NON-HUMAN CELLS OF THE MONOMYELOCYTIC LINEAGE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN: THE GLY-RICH REGION IS CALCIUM, WHICH IS REQUIRED FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY)
 Similarity
                                                                                                                                                                                                                                                                                                                 PS00330;
                                                                                                                                                                                                                                                                                           Lipoprotein;
                                                 AA;
                                                                                                                                                                                                                                                                                                                HEMOLYSIN_CALCIUM;
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s; Cytotoxin;
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                                                 38DF9AA24649F662 CRC64;
  819; DB 1;
No. 1.3e-33;
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                                                                                                                                                                                                                                                                                                       Repeat;
                                                                                                                                                                                                                                           GLY-RICH.
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    Munier
   MEDLINE-91177021;
Munier H., Gilles
                                                                                                                                                                                                                                                                                                                                                                     01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
30-MAY-2000 (Rel. 39, Last annotation update)
BIFUNCTIONAL HEMOLYSIN-ADENYLATE CYCLASE PRECURSOR (CYCLOLYSIN) (ACT)
(AC-HLY) [CONTAINS: CALMODULIN-SENSITIVE ADENYLATE CYCLASE); HEMOLYSIN]
(EC 4.6.1.1) (ATP PYROPHOSPHATE-LYASE) (ADENYLYL CYCLASE); HEMOLYSIN]
                                                                                                                                                                                                                                                                   SEQUENCE FROM STRAIN-18323;
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                                  OMAINS
                                                                            Blaser P., Sakamoto H., Bellalou J., Ullmann A., Danchin A.; "Secretion of cyclolysin, the calmodulin-sensitive adenylate aemolysin bifunctional protein of Bordetella pertussis.";
                                                                                                                            MEDLINE=89091151; PubMed=2905265;
                                                                                                                                             STRAIN=18323
                                                                                                                                                          SEQUENCE OF 1489-1706
                                                                                                                                                                                                                                                 MEDLINE=88216178; PubMed=2897067;
                                                                                                                                                                                                                                                                                                              Bordetella
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                                                               7:3997-4004(1988).
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                                                                                                                                                                                        2:19-30(1988).
   PubMed=2007407;
A.-M., Glaser P
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Bordetella pert
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    Sarfati R.,
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    Barzu
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    BASAI T., HAVIICEK V., BEZOUSKOVA S., HALADA P., HACKETT M., Sebo P.,
"The conserved lysine 860 in the additional fatty-acylation site of
Bordetella pertussis adenylate cyclase is crucial for toxin function
independently of its acylation status.";
J. Biol. Chem. 274:10777-10783(1999)
-!- FUNCTION: THIS ADENYLATE CYCLASE BELONGS TO A SPECIAL CLASS OF
BACTERIAL TOXIN. IT CAUSES WHOOPING COUGH BY ACTING ON MAMMALIAN
CELLS BY ELEVATING CAMP-CONCENTRATION AND THUS DISRUPTS NORMAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=91266896; PubMed=2050107;
Glaser P., Munier H., Gilles A.-M., Krin
Sarfati R., Pellecuer C., Danchin A.;
"Functional consequences of single amino
calmodulin-activated adenylate cyclase of
EMBO J. 10:1683-1688(1991).
                                              EMBL;
                                                                                                        the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hackett M., Guo L., Shabanowitz "Internal lysine palmitoylation Bordetella pertussis.";
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                                 EMBL;
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CATALYTIC ACTIVITY: ATP = 3',5'-CYCLIC AMP + PYFENZYME REGULATION: ACTIVATED BY HOST CALMODULIN.
                                                                                                                                                                                                                                 CLASS-2 FAMILY.
SIMILARITY: IN THE C-TERM
PROKARYOTIC TOXIN FAMILY.
                                                                                                                                                                                                                                                                                                            PTM: RELEASED IN A PROCESSED FORM.
PTM: PALMITOYLATED BY CYAC. THE TOXIN ONLY BECOMES ACTIVE WHEN
                                                                                                                                                                                                                                                                                                                                          CALCIUM, WHICH IS REQUIRED FOR TARGET ACTIVITY (BY SIMILARITY).
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                              X14199; CAA32411.1;
A07292; CAA00653.1;
A14850; CAA01202.1;
                                                                             Y00545;
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   OYBRC.
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                                                                            CAA68613.1;
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lou-Lazaridou A.,
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PFAM; PF00353; hemolysinCabind; 5.
PRINTS; PR00313; CABNONGRPT.
PROSITE; PS00330; HEMOLYSIN_CALCIUM; 5.
Lyase; camp synthesis; ATP-binding; Hemolysis; Toxin; Virulence; Whooping cough; Calcium-binding; Repeat; Lipoprotein; Palmitate.
CHAIN
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CALMODULIN-SENSITIVE ADENYLATE
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PQEAASLSAAVFGLGEASSAVAETVS-----
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                                                                                                                       AYGV-AGKSLFDDGLGAAPGVPSGRSKFSPDVLETVPAS-----PGLR-----RPSL
                  NSLIENIANSVKTLDEFGEQISQFGSKLQNIKGLGTLGDKLKNIGGLDKAGLGLDVISGL 315
                                                    AESIVQNANK--AKTVLSGIQSILGSVLAGMDLDEALQNNSNQHALA------KAGLELT
                                                                                G-AVERQDSGYDSLDGVGSRSFSLGEVSDM-----AAVEAAELEMTRQVLHAGARQDD
                                        AEPGVSGASAHWGQRALQGAQAVAAA----
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PALMITATE.

D->E,N,Y,H: LOSS OF ACTIVITY.

D->N,Y,H: LOSS OF ACTIVITY.

H->R,P,L: LOSS OF ACTIVITY.

E->O,K: LOSS OF ACTIVITY.

66 MW; F00744524BDD442E CRC64;
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                                                                                                                                                            Score 212; DB 1; Pred. No. 0.003; 4; Mismatches 220;
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                             ELSKVVDNYELLKHSKNVTNSLDKLISSVSAF
                                                          ANDYARKIDELGGPQAYFEKNLQARHEQLANSDGLR----KMLADLQAGWNASSVIGVQTT 778
                                                                                      --DEAKEVPN----YKATKDEKIEEIIGQNGERITSKQVDDLIAKGNGK----ITQD 531
                                                                                                                      EGAVAGVSAVLSTVGAAVSIAAAASVVGAPV---AVVTSLLTGALNGILRGVQQPIIEKL
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Search completed: March 2, 2001, 11:01:34 Job time: 449 sec

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sp_vertebrate:013083 -
sp_bacteria:09S0T3 +
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sp_bacteria:09R729 +
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sp_bacteria:09L469 +
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seq_documentation_block:
ID 068403 PRELIMINARY;
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sp_bacteria:Q9LAX0
sp_bacteria:Q54415
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sp_fungi:O13936 +
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-(a-/cgn2_1/USPTO_spool/US09306689/runat_02032001_102828_9616/app_query.fasta_1.2389
-(DesgrtreMbL_15 -QFMT)=fastan -SUFFIX=rspt -GAPOP=12.000
-GAPEXT-4.000 -MINMATCH=0.100 -LOOPCL=0.000 -LOOPEXT=0.000
-GAPEXT-0.000 -GAPEXT=0.000 -XGAPOP=10.000 -XGAPEXT=0.500
-FAROP=6.000 -FGAPEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-DELOP=6.000 -DELEXT-7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-DELOP=6.000 -DELEXT-7.000 -START=1 -MATRIX=blosum62
-TRANS=human40.cd1 -LIST=45 -DOCALICN=200 -THR_SCORE-PCt
-THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE-LOCAL -OUTFMT-pfs
-NORM-ext -MINLEN=0 -MAXLEX=200000000
-USER-US09306689_@CGN1_1_639 -NCPU=6 -ICPU-3 -LONGLOG -NO_XLPXY
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22 1 Q01964 moraxella catarrhalis. u
1039 1 Q09vtr6 drosophila melanogast
22 1 Q103083 dissostichus mawsoni. af
25 1 Q09vtr6 drosophila melanogast
26 1 Q09vtr6 drosophila coli. flagel
27 1 Q09vtr6 drosophila coli. flagel
28 1 Q09vtr6 deinococcus radiodurans
29 1 Q09vta vylella fastidiosa. sur
29 1 Q09vy4 deinococcus radiodurans
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09kx33 streptococcus cristatus
0781 campylobacter fetus. si
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054415 salmonella monschaui. pl
097643 lama glama (llama). fib
091x38 moraxella catarrhalis. (
054515 salmonella pensacola. pl
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Q9z5a4 streptomyces coelicolor
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01-AUG-1998 (TrEMBLrel. 07, Created)
01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
ALPHA HEMOLYSIN (FRAGMENT).
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"Chromosomal regions specific to pathogenic isolates
"Chromosomal regions specific to pathogenic isolates
"Chromosomal regions specific to pathogenic isolates
"Chromosomal regions."
J. Bacteriol. 180:1159-1165(1998).

EMBL; AF037572; AAC38261.1;
EMBL; AF037572; AAC38261.1;
ENTERPRO; IPR000911;
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MEDLINE=98155142; PubMed=9495754;
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Bacteria; Proteobacteria;
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erValLeuSerThrPheGlnAsnPheLeuGlyAlaAlaLeuSerSerMet
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seq_documentation_block:
ID 068404;
AC 068404;
DT 01-AUG-1998 (TrEMBLIRE
DT 01-AUG-1998 (TREMBLIRE
DT 01-ANY-2000 (TREMBLIRE
DT 01-MAY-2000 (TREMBLIRE
DT 01-MAY-2000 (TREMBLIRE
DT 01-MAY-2000 (TREMBLIRE
DT 01-MAY-2001 (TRAC
GN HYLA.

OS Escherichia coli.
OC Bacteria; Proteobacte
OC Escherichia.
OX NCBI_TAXID=562;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIM-ECOR 43;
RX MEDLINE=98155142; Pub
RA Boyd E.F., Harti D.L.
RT "Ctromosomal regions
RT "Ctromosomal regions
RT "Cli have a phylogene
RL J Bacteriol 180:1155
DR EMBL; AF037573; AAC38
DR INTERPRO; IPRO00911;
DR PROSITE; PS00359; RIB
FT NON_TER
SQ SEQUENCE 181 AA; 1
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US-09-306-689-12 x
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Percent Similarity:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=98155142; PubMed=9495754;
Boyd E.F., Hartl D.L.;
"Chromosomal regions specific to pathogenic isolates of
"Coli have a phylogenetically clustered distribution.";
J. Bacteriol. 180:1159-1165(1998).
EMBL; AF037573; AAC38262.1; -.
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Bacteria, Proteobacteria, gamma
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALPHA HEMOLYSIN (FRAGMENT).
101°LysIleAspGluLeuIleLysLysGlnLysSerGlyAsnAsnValSerSe
                                                                                                                                                                                                                                                                                                                                                                                    503 GCACGATTCAAACCGCTATTGGCTTAACTGAGCGTGGCATTGTGTTATCC
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                          GATTTAGATGAGGCCTTACAG.....AATAACAGCAACCA
                                                                                                                                                                                                                                                                                   GCTCCACAAATTGATAAATTGCTACAGAAA...ACTAAAGCAGGCCAAGC
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                                                                                                                            CTGTATTATCTGGCATTCAATCTATTTTAGGCTCAGTATTGGCTGGAATG
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                                                                                                                                                                                              ATTA...GGTTCTGCCGAAAGCATTGTACAAAATGCAAATAAAGCCAAAAA
                                                                                                                                                                                                                                                             AlaProGlnLeuAspLysLeuLeuGlnLysTyrGlnLysAlaGlyAsnLy
                                                                                      erValLeuSerThrPheGlnAsnPheLeuGlyThrAlaLeuSerSerMet
                                                                                                                                                                      sLeuGlyGlySerAlaGluAsnIleGlyAspAsnLeuGlyLysAlaGlyS
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Last annotation update)
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alignment_block:
US-09-306-689-12 x
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ID 070070 PRELIMINARY;
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                                                                                                                                                                                                                            Percent Similarity:
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EMBL; AR037579; AAC38268.1; --

EMBL; AF037574; AAC38264.1; --

EMBL; AF037575; AAC38264.1; --

EMBL; AF037576; AAC38265.1; --

EMBL; AF037577; AAC38265.1; --

EMBL; AF037577; AAC38265.1; --

EMBL; AF037578; AAC38267.1; --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-98155142; PubMed-9495754; Boyd E.F., Hartl D.L.;
INTERPRO; IPR000255; ..
INTERPRO; IPR000911; ..
PROSITE; PS00012; PHOSPHOPANTETHEINE; UNKNOWN_1.
PROSITE; PS00359; RIBOSOMAL_L11; UNKNOWN_1.
NON_TER 1 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Chromosomal regions specific to pathogenic isolates of Escherichia coli have a phylogenetically clustered distribution.";
J. Bacteriol. 180:1159-1165(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Escherichia coli.
Bacteria; Proteobacteria;
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01-MAY-2000
                                                                               453 GGTACAAAGAAGAACGCAATAATATTGCAACAGCTCAAACCAGTTTAG
                                                                                                                                   403 GGTAATGGTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGATTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
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                                                     17 uValGlnTyrAspGluLysAsnGlyThrAlaIleThrLysGlnValPheG
                                                                                                       CAATTTGGTTCAAAACTACAAAATATCAAAGGCTTAGGGACTTTAGGAGA
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Ratio:
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2.605
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alignment_scores:
Quality:
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US-09-306-689-12 x Q9U617
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                                                                                     Align seg 1/1 to: Q9U617
                                                                                                                                                                                             Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      _documentation_block:
Q9U617 PRELIMINARY;
                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.

STRAIN-OREGON R;

Chartier A., Astier M., Zaffran S., Semeriva M., Gratecos D.;

"Characterization of an extracellular matrix component specifically

"Characterization of the dorsal vessel in Drosophila

melanogaster.";

Submitted (NOV-1999) to the EMBL/GenBank/DDBJ databases.

Submitted (NOV-1999) to the EMBL/GenBank/DDBJ crc64;

EMBL; AF203342; AAF13280.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Drosophila melanogaster (Fruit fly).

Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;

Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;

Ephydroidea; Drosophilidae; Drosophila.

NCBI_TaxID-7227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-CCT-2000 (TrEMBLrel. 15,
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417 TyrGlyThrGlnProGlyIleGlyGlyGlnThrGlyAlaGlyGlnProGl 433
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67 sLeuGlyGlySerAlaGluAsnIleGlyAspAsnLeuGlyLysAlaGlyS 84
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                                       37 TACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAGC.....
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                                                                                                                                                                                           208.50
0.615
40.599
                                                                                     from: 1
                                                                                                                                                                                           Gaps: 45
Percent Identity: 22.156
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Last sequence update)
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                                                                                     to: 1729
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827	8 GAAAATATTGCTAATTCAGTAAAAACACTTGACGAATTTGGTGAGCAAAT	77
777 688	8 ACCAACATGCTCTTGCTAAAGCTGGCTTGGAGCTAACAAATTCATTAATT :: ::: ::::: 0 lyGlnThrGlyAlaGlyGlnProGly	72 68
727 680	8 CTCAGTATTGGCTGGAATGGATTTAGATGAGGCCTTACAGAATAACAGCA :::	67 66
6 7	7 AAAGCCAAAACTGTATTATCTGGCATTCAATCTATTTTAGG : : : : : : : :	6 5 3
ن خد	O CAGGCCAAGCATTAGGTTCTGCCGAAAGCATTGTACAAAATGCAAAT ::: :::::::::::::::::	63 59
589 633	NTCCGCTCCACAAATTGATAAATTGCTACAGAAAACTAAAG 	6 5
539 620	99 TTAGGCACGATTCAAACCGCTATTGGCTTAACTGAGCGTGG :::	60
498 603	GAACGCAATAATATTGCAACAGCTCAAACCAGT :::::! ::: valGlyAlaGlnThrGlyThrGlyGlnProGly	58 44
448 587	99 ACAAGGTAATGGTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGA :	57 39
398 573	49 GCAAAAAAATTATCCTCTATATTCCCCAAAATTACCAATATGATACTGA ::: 	56
348 564	CTAGCTTCCCAAAAACTGGG 	5, 3,
328 548	.TACGGCCTGCGTCCGGGT TyrGlyThrGlnProGlyIleG	5:
305 531	56 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGTAGCCAAGATTGGAG ::: ::: ::: 16 GlnProGlyTyrGlySerGlnProGlyIleGlyGlyGlnThrGlyAl	5 29
255 515	9TACGGCCTGCGTCCGGGT ::: 9 lnProGlyTyrGlySerGlnProGlyIleC	22 49
228 499	CCCTGGCAGCGGTTCTCAA 	4 1:
182 482	.54GGATCTCAGCA	4 1
153 465	110 GGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCAAGATTGGAGC ::: ::: ::: ::: :::	4 1
109 449	76. TACGGCCTGCGTCCGGGT	4-
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1555	AGAAATCATCGGTCAAAATGGCGAGCGGATCACCTCAAAGCAAGTTGATG $$	1506
Ü	eGlyGlyGlnP	941
ίπ	CTAAAGAAGTGCCTAATTATAAAGCAACTAAAGATGAGAAAATC :: :;	1456
940	ThrGlnProGlyIleGlyGlyGlnThrGlyThrAsnGlnProGly	926
1455	AGAGAAAGTGACCATTCAAAACTGGTTCCGAGA	1406
925	HisTyrGlyTyrGlu	921
1405	TTGAAAAGTTAAACATAA	1356
920	::: -:: :::: :::: ::::::::	908
1355	rescentares	1318
907	roGlyTyrGlyGlyGlnAlaThrIleSerGlyLeuProGlyTyrGlyThr	891
1317	ATCGGTTACTO	1292
891	lyGlnProGlyIleSerGlyGlnThrGlyGl	875
1291	TATGACGGAGATAATTTATTAGCAGAATATCAGCGGG	1242
875		870
1241	ATCATGCAAA	1192
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1191	GTATTGCCGATA	1174
853	LysProGlyTyrTrpAlaGln	836
1173	TCTACTGTTTCTCTTGCGATTAGCCCATTA	1134
836	ProGlyIleGlyGlyIleSerGlyProTleGlyGlyLysValGl	822
1133	CAGGTTTATCTTCAACTGGGCCTGTGGCTGCTTTAATTG	1084
821	TyrGlyGlyGlnThrGlyValGly	805
1083	TCTTCTTACATTTTAGCC	1063
805		788
1062	AAAC	1044
788	:::::: ::: :: SerGlnProGlyValGlyAlaG	772
1043	AAAAAAGTGGGTGCGGGTTTTGAATTGGCAAA	994
771	InTleGlyGlyGlnThrGlyAlaGlyGlnProSer	760
993	CGGGCGCAACAGCTGCACTTGTACTTGCAGATAAAAATGCTTC	944
760	ProGlyIleGlyGlyGlnThrGlyG	743
943	GGTTTAGATGTTATCTCAGG	922
743	ProGlyIleGlyGlnSerGlyAlaGlyGlnProGlyTyrGlySerGl	727
921	ATCGGTGGACTTGATAAAGCTGG	889
726	yValGlyThrGlnThrGlyThrG	710
888	AGAC	874
710	<pre>::: </pre>	693
873	TAGTCAATTTGGTTCAAAACTACAAAATATCAAAGGCTTAGGGACT	828

		STRAIN=63.2; Boursaux-Eude C	
		SEQUENCE	
	ceae;	OS BOTOCTELIA PATAPETTUSSIS. OC Bacteria; Proteobacteria; beta subdivision; Alcaligenac OC Bordetella.	
		CYAA.	
_	4.6.1	DT 01-0CT-2000 (ILEMBLIEL. 15, Cleared) DT 01-0CT-2000 (TREMBLEL. 15, Last sequence update) DT 01-0CT-2000 (TREMBLEL. 15, Last annotation update) DE BIFUNCTIONAL HEMOLYSIN-ADENYLATE CYCLASE PRECURSOR (EC	
		q_documentation_block: Q9L469 PRELIMINARY; PRT; Q9L469; PRELIMINARY; PRT;	
		q_name: sp_bacteria	
		1097 roGly 1098	
		- G	
	207 4 1097	2037 TGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTC	
	1080	2002	
	9 0	049 laGlnProGlyPheGlyGlyGlnProGlyTyrGlyAsnGlnProGl	
	2001	CCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCGGG	
	1951 1049	1917 GCGTCCGGGTGGATCTCAGCATTGGAGCTACGGCCC ::: 1032 rGlnProGlyIleGlyGlyGlnThrGlyAlaGlyGlnProGlyTyrGlyA	
	1916 1032	1879 CGCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCT ::: ::: 1016 GlnThrGlyValGlyGlnTleGlyAlaGlyGlnProGlyTyrGlySe	
	1015	1044 Cobst	
	2 0	983 oGlyIleGlyGlyGlnThrAlaAlaGlyGlnProGlyTyrGlySer	
-	8 8	06 TGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGT	
	1805 983	1756 TCTCTTCAATTTGCTAGGGGATCTCAGCATTGGAGCTACGGCCTGCGCCC	
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	1755	1706 CGAGAAATGTATTAGTGGCTCCAACTTCAATGTTGGATCAAAGTTTATCT	
	968	968	
	1705	1656 CTTAGATAAGTTAATCTCATCTGTAAGTGCATTTACCTCGTCTAATGATT	
	896	968	
	1655	1606 GTTGTTGATAACTATGAATTGCTCAAACATAGCAAAAATGTGACAAACAG	
	1605 968	1556 ATCTTATCGCAAAAGGTAACGGCAAAATTACCCAAGATGAGCTATCAAAA	
	954	945 oGlyIleGlyGlnThrGlyAlaGly	

SORRERR

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alignment_block:
US-09-306-689-12 x Q9L469
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Quality:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
                                 618 CATTGTACAAAATGCAAATAAA......GCCAAAACTGTATTATCTGGCA 661
                                                                                                                                                                                                                                                                                 416
                                                                                                                                                                                                                                                                                                                                                                 414 SerPhe.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                518 CTATTGGCTTAACTGAGCGTGGCATTGTGTTATCCGCTCCACAAATTGAT 567
                                                                                                                                                                                                                                                                                                                         468 ACGCAATAATATTGCAACAGCTCAAACCAGTTTAGGCACGATTCAAACCG 517
                                                                                                                                                                                                                                                                                                                                                                                                                418 GATTTAGTCAAAGCGGCCGAAGAGTTGGGGATTGAGGTACAAAGAGAAGA 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                               399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          145 .....GATTGGAGCTACGGCCTGCGTCCGGGTGGATCTCAGCATTG 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           327 rgGlyGlnLeuLysGluTyrIleGlyGlnGlnArgGlyGluGlyTyrVal 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              310 pGluLysIlePheValValSerAlaThrGlyGluSerGlnMetLeuThrA 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lyase.
SEQUENCE 1706 AA; 177038 MW;
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Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ249835; CAB76450.1; -.
                                                                                                                                        568 AAATTGCTACAGAAAACTAAAGCAGGCCAAGCATTAGGTTCTGCCGAAAG 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              375 ...SerSerProAspValLeuGluThrValProAlaSerProGlyLeuAr 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    286 AGCGGTAGCCAAGAT.....TGGAGCTACGGCCTGCG 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  236 TGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGC 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           186 GAGCTACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCC 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      344 PheTyrGluAsnArgAlaTyrGlyVal.....AlaGlyLysSerLeuPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              294 AspValValGlnHisGlyThrGluGlnAsnAsnProPheProGluAlaAs 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66 AGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCT 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16 GATCGATCTCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCA 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                        .....ArgGlnAspSerGlyTyrAspSerLeuAspGlyValGlySerArg 413
                                                                                                                                                                                       et......AlaAlaValGluAlaAlaGluLeuGlu 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATATTCCCCAAAATTACCAATATGATACTGAACAAGGTAATGGTTTACAG 417
                                                                                                                                                                                                                                                                     .....SerLeuGlyGluValSerAspM 423
                                                                                           MetThrArgGlnValLeuHisAlaGlyAlaArgGlnAspAspAlaGluPr 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ratio:
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0.849
50.734
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Gaps: 16
Percent Identity: 22.432
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        358
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seq_documentation_block: ID 09KX33 PRELIMINARY; PRT; 3381 AA. AC 09KX33; DT 01-0CT-2000 (TrEMBLrel. 15, Created) DT 01-0CT-2000 (TrEMBLrel. 15, Last sequence update) DT 01-0CT-2000 (TrEMBLrel. 15, Last annotation update) DE SRPA. OS Streptococcus cristatus. OC Streptococcus.	1332 TATTGCTGGTGGTGTGTCTGCTGCTGCAGCC 1362 :::::::::::::	1232 AAAAATTAGGCTATGACGGAGATAATTTATTATGCAGAGAATATCAGCGGGGA :: ::: :::	1132 GCTTCTACTGTTTCTCTTGCGATTAGCCCATTAGCCATTTGCCGGTATTGC ::::::::::::::::::::::::::::::::::	1044 TAATATTACCAAAGCCGTTTCTTCTTACATTTTA	944 TATTATCGGGGGGAACAGCTGGCACTTGTACTTGCAGATAAAAATGCTTCA ::::::::::::::::::::::::::::::::::	844 AAACTACAAAATATCAAAGGCTTTAGGAGCTTTAGGAGACAAACTCAA	745 .AAAGCTGGCTTGGAGCTAACAAATTCATTAATTGAAAATATTGCTAATT ::: :::: 486 yArgalaGlySerThrAsnThrProGlnGluAlaAlaSerLeuSerAlaA 794 CAGTAAAAACACTTGACGAATTTGGTGAGCAAATTAGTCAATTTGGTTCA :: ::::: 503 laValPheGlyLeuGlyGluAlaSerSerAlaValAlaGluThrValSer	662 TTCAATCTATTTTAGGCTCAGTATTGGCTGGAATGGATTTAGATGAGGCC
) Streptococcaceae		3GGA 1281 JAsp 660 CCGC 1331 :::: erTh 677	NTTGC 1181 :::: euva 627 :TTTA 1231 :SerS 644	GCCC 1081 : - : 	TTCA 993	AAAAA 893 ::: ArgTr 528 AAGGGC 943 :: :	AATT 793 :AlaA 503 :TTCA 843	472 744 heG1 486
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Streptococcus.

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alignment_scores:
Quality: 199.00
Ratio: 0.463
Percent Similarity: 60.224
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US-09-306-689-12 x Q9KX33
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2260 SerValSerAlaSerGlnSerAlaSerAlaSerAlaSerAsnGlnAs
                                                                                                                                                                                                           2415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2449 SerGlnSerAlaSerValSerAlaSerGlnSerAlaSerAlaSerValSe
                                                                                                     2432 leSerAlaSerGlnSerAlaSerAlaSerIleSerAlaSerIleSerAla 2448
                                                                                                                                                                                                                                                                                                                 2399 ThrSerAlaSerValSerAlaSerGlnSerAlaSerAlaSerAlaSerAs 2415
                                                                                                                                                                                                                                                                                                                                                                                                                    2354 Ser...AlaSerGlnSerAlaSerIleSerAlaSerGlnSerAlaSerAl 2369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2337 erAlaSerAlaSerAlaSerAsnAsnGlnAsnSerAlaSerIleSerVal 2353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2326 nSerThrSer......AlaSerValSerAlaSerGlns 2337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2293 erGlnSerAlaSerAlaSerIleSerAlaSerIleSerAlaSerGlnSer 2309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2276 nSerAlaSerIleSerValSerAlaSerHisSerAlaSerIleSerAlaS 2293
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STRAIN-(C5A;
Correla F.F., Allen T.W., DiRienzo J.M.;
Pligh molecular weight serine-rich protein gene (srpA) from streptococcus crista.";
Submitted (MAR-2000) to the EMBL; U96166; AAF34780.1;
EMBL; U96166; AAF34780.1;
SEQUENCE 3381 AA; 321836 MW; C623EE363E74853F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          176 CTCAGCATTGGAGCTACGGCCTGCCCCTGGCAGCGGTTCTCAAGATTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        126 CCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGAT 175 ::::||| |||:::||||:::|||::: ::: :::
                                        622 GTACAAAATGCAAAT......AAAGCCAAAACTGTATTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       422 TAGTCAAAGCGGCCGAAGAGTTGGGGGATTGAGGTACAAAGAGAAGAACGC 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     376 CAAAATTACCAATATGATACT....GAACAAGGTAATGGTTTACAGGATT 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              326 GATCTAGCTTCCCAAAAACTGGGGCAAAAAAATTATCCTCTATATTCCC 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              276 GCGCCCTGGCAGCGGTAGCCAAGATTGGAGCTACCGGCCTGCCGTCCGGGTG 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=45634;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76 TACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26 AGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGC
                                                                                                                                                                                                         nAsnGlnAsnSerAlaSerIleSerValSerAlaSerGlnSerAlaSerI 2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCT 275
                                                                                                                                                        TGCTACAGAAAACTAAAGCAGGCCAAGCATTAGGTTCTGCCGAAAGCATT
                                                                                                                                                                                                                                                            TGGCTTAACTGAGCGTGGCATTGTGTTATCCGCTCCACAAATTGATAAAT 571
                                                                                                                                                                                                                                                                                                                                                                    AATAATATTGCAACAGCTCAAACCAGTTTAGGCACGATTCAAACCGCTAT 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length: 714
Gaps: 23
Percent Identity: 20.448
     2465
                                                     656
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1496 2751	GAGGCTGATTTGCTAAAGAAGTGCCTAATTATAAAGCCAACTAAAGATGA ::: :: :: :: ::	1447 2737
73	ATCACGAATAGCAAAAAAGAGAAAGTGACCATTCAAAACTGGTTCCG :::	1399 2720
1398 2720	GCAGCCGATTTAACATTTGAAAAAGTTAAACATAATCTTGTC 	1357 2703
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1267 2670	TGCCGAACGCTTTAAAAAATTAGG ::::: rvalSerAla	1218 2662
1217 2662	TTTGCCGGTATTGCCGATAAATTTAATCATGCAAAAAGTTTAGAGAGTTA	1168 2646
1167 2645	CTTTAATTGCTTCTACTGTTTCTCTTGCGATTAGCCCCATTAGCA :::::: :::::	1124 2629
1123 2629	TTTAGCCCAACGTGTTGCAGCAGGTTTATCTTCAACTGGGCCTGTGGGCTG	·1074 2613
1073 2613	TTGGCAAACCAAGTTGTTGGTAATATTACCAAAGCCGTTTCTTACAT :::::::::::::::::::::::::::::	1024 2597
1023 2596	ATAAAAATGCTTCAACAGCTAAAAAAGTGGGTGCGGGTTTTGAA ::	980 2580
979 2580	TGTTATCTCAGGGCTATTATCGGGCGCAACAGCTGCACTTGTACTTGCAG::: ::: ::::: ::: :::	930 2563
929 2563	GACAAACTCAAAAATATCGGTGGACTTGATAAAGCTGGCCTTGGTTTAGA :::::::: ThrSerMetSerAsnSerValSerAlaSerIleSerAlaSerGl	880 2549
879 2548	TCAAAACTACAAAATATCAAAGGCTTAGGGACTTTAGGA ::::::::::::::::::::::::::::::	841 2532
840 2532	AGCAAATTAGTCAATTTGGT. ::: ::: alseralaserGlnserAlas	792 2515
791 2515	AAAGCTGGCTTGGAGCTAACAAATTCATTAATTGAAAATATTGCTAA ::: ::::::::::::::: GlnSerAlaSerIleSerAlaSerGlnSerAlaSerAlaSerIleSerAl	745 . 2499
744 2498	AGGCCTTACAGAATAACAGCAACCAACATGCTCTTGCT	707 2482
706 2482	TGGCATTCAATCTATTTTAGGCTCAGTATTGGCTGGAATGGATTTAGATG ::: ::: ::::::::::	657 2465

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DD PRO OCC OCC DD PRO OCC OCC DD PRO OCC OCC DD PRO OCC OCC DD PRO OCC OCC DD PRO OCC DD
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ID 052781 PRELIMINARY;
                               alignment_scores:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1929 ATCTCAGCATTGGAGCTACGGCCTGCCGCCCTGGCAGCGGTTCTCAAGATT
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                                                                                                                                           SEQUENCE FROM N.A.
STRAIN-CIP 5396T;
Guesdon J.L., Casademont I., Chevrier D.;
Guesdon J.L., Casademont I., Chevrier D.;
Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF048699; AAC04580.1; -.
SEQUENCE 1112 AA; 112503 MW; DA9D9C2F62602091 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       406 laAspLeuSerThr...SerAlaSerValThrSerIleLysGlyGlyAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  329 GlySerAlaAspValGlnAsnLeuLysVal.....AsnGlyValGl 342
                                                                                                                                                                                                                                                                                           CCCAAGATGAGCTATCAAAAGTTGTTGATAACTATGAA......
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlyAsnAspLysIleThrIleLysAspValAlaValAsnValAlaIleAs 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTTTCTCTTGCGATTAGCCCATTAGCATTTGCCGGTATTGCCGATAAAT 1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACTTCAATGTTGGATCAAAGTTTATCTTCTCTTCAATTTGCTAGGGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                             GACAAACAGCTTAGATAAGTTAATCTCATCTGTAAGTGCATTTACCTCGT 1696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAAAAGTTAAACATAATCTTGTCATCACGAATAGCAAAAAAAGAGAAAAGT 1424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGCCGCTATTGCTGGTGTGTGTCTGCTGCTGCAGCCGATTTAACATTT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAAAGCCGTTTCTTACATTTTAGCCCAACGTGTTGCA.....
                                                                                               ValThrIleAsnAspGluSerLeuLysThrIleAsnPheSerAspValAs
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IleSerValLysGlyAsnAlaAsnLeuSerLeuAlaThrGlyAlaLysTh
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                                                                                                                                                                                                                             lyAsnValGluThrValAsnIleLeuAlaAsnAsnAlaThrAspLysAla
                                                                                                                                                                                                                                                                                                                                                               lThrGluSerSerPheLysAsnIleAlaLysThrValThrGluSerAsnG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              {\tt AspGlyAsnThrLysAspLeuThrLeuSerLeuLysLysAlaGlnSerVa}
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hrAlaAspThrLeuGlnProThrLeuThrAsnIleGluLysValThrVal 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ......GATGATCTTATCGCAAAAGGTAACGGCAAAATTA 1585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rThrThrLeuAsp......AlaSerSerPheGlyGlyAlaLeuAspA 406
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alignment_block: us-09-306-689-12 x
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Quality:
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                                                                                                                                           Align seg 1/1 to: Q61869
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2011 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCAAGATT 2056
                                                                                                                                                                                                                                                                                                                                          PFAM; PF00038; filament; 1.
PRINTS; PR01276; TYPEZKERATIN.
PROSTTE; PS00226; IF; 1.
Keratin; Intermediate filament; Coiled coil; Heptad repeat pattern.
SEQUENCE 707 AA; 70977 MW; D58FA5E6E30BBB86 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          J. Invest. Dermatol. 102:165-170(1994).
-:- SIMILARITY: TO ALL OTHER INTERMEDIATE FILAMENT EMBL; X74784; CAA52788.1; -.
MGD; MGI:98699; Krt2-17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1996 (TIEMBLIEL 01, Created)
01-NOV-1996 (TIEMBLIEL 01, Last sequence update)
01-JUN-2000 (TIEMBLIEL 14, Last annotation update)
KERATIN COMPLEX 2, BASIC, PROTEIN 2 (KERATIN 2 EPIDERMIS).
KRT2-17 OR KRT2-2 OR MK2E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=94149286; PubMed=7508961;
Herzog F., Winter H., Schweizer J.;
"The large type II 70-kDa keratin of mouse of human keratin K2e.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            579 spIleAsnAlaAlaLysAspThrValGlyLeuThr.....LeuGly 592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   565 aAlaAspAlaValValGlnAlaAlaAsnAlaThr.....LysIleA
                                141 CCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGATCTCAGCATTGG.... 186
                                                                                                                                                                                                                                                                                                                                                                                                                                           INTERPRO; IPR001664; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN-NMRI;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10090;
                                                                GGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyValAlaLysLeuThrAspLeuThrValAsnAsnLysGlyAlaPheAl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aLeuThrGlyAlaAsnAlaThrAspLeuAspSerValLysAsnLeu
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42.133
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Percent Identity:
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.GlyGlyGlyGlnGlyPheGlyG 110
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937 370	888 CAAAAATATCGGTGGACTTGATAAAGCTGGCCTTGGTTTAGATGTTATCT :::
887 361	38 GGTTCAAAACTACAAAATATCAAAGGCTTAAGGGACTTTAGGAGACAAACT::::::::::
837 345	788 CTAATTCAGTAAAAACACTTGACGAATTTGGTGAGCAAATTTAGTCAATTT :: ::::: ::: 331 alasnPheLeuargThrLeuTyraspAlaGluLeuSerGlnLeu
787 331	738 TCTTGCTAAAGCTGGCTTGGAGCTAACAAATTCATTAATTGAAAAATATTG ::: ::: ::::::::::::::::::::::::
737 316	688 GCTGGAATGGATTTAGATGAGGCCTTACAGAATAACAGCAACCAAC
687 306	638 AAGCCAAAACTGTATTATCTGGCATTCAATCTATTTTAGGCTCAGTATTG
637 295	GCAAATA
611 278	565 GATAAATTGCTACAGAAAACTAAAGCAGGCCAAGCATTAGGTTCTGC :: ::::: ::: ::: 262 AspArgLeuSerAlaGluArgThrSerGlnGluSerGluLeuAsnAsnMe
564 261	TATCCGCTCCACAAATT ::: GlnVal
514 252	
501 235	GAAGAACGCAATAATATTGCAACAGCTCAAACCAGTTTA ::::: :::::
462 218	GATTGAGGTACAAAGA ::::: strict
445 202	AATGGTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGG
395 190	358 ATTATCCTCTATATTCCCCAAAATTACCAATATGATAC ::: ::
357 173	TCTAGCTTCCCAAAAACTGGGGCAAAAAAA :::::
319 157	GGTAGCCAAGATTGGAGCTACGGCCTGCGTC ::::::
275 143	GGTGGCTCTAGCCAGCATTGGAGCTACGGCCT ::: ::: S1yG1yG1ySerG1yPheG1yG1yG1yG1yPh
225 126	GlyPheGlyGlyGlyGlnGlyPhe

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alignment_scores:
Quality:
Ratio:
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ID Q9L964 PRELIMINARY;
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US-09-306-689-12 x Q9L964
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                                                                                                                                                                                                            Align seg 1/1 to: Q9L964 from: 1
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Q9L964;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1951 CTGCGCCCTGGCAGC...GGTTCTCAAGATTGGAGCTACGGCCTGCGTCC 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1860 GCATTGGAGCTACGGCCTGCCCCTGGCAGCGGTAGCCAAGATTGGAGCT 1909
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              135 CGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGATCTCAGCATT 184
                                                                                                                    Vitro.";
J. Bacteriol. 182:1364-1373(2000).
EMBL; AF181072; AAF40118.1; -.
SEQUENCE 922 AA; 96966 MW; A4EC5BDA3973555A CRC64;
                                      283 .....GlyPheAlaGlyValSerGlnAlaAsnGlnAlaAsnSerG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN-012E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Moraxella catarrhalis.
Bacteria; Proteobacteria; gamma subdivision; Moraxellaceae; Moraxella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The UspAl Protein and a Second Type of UspA2 Protein Mediate Adherence of Moraxella catarrhalis to Human Epithelial Cells In
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hansen E.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=20138164; PubMed=10671460;
Lafontaine E.R., Cope L.D., Aebi C., Latimer J.L., McCracken G.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=480;
                                                                                85 CGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCAG 134
                                                                                                                                                                    35 GCTACGGCCTGCCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             serGlyGlySerArgGlyGlySerGlyGlyTyrGly...SerGl 617
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         yGlyGlySerGlyGlyGlyGlyTyrSerSerGlyGlyGlySerArgG 634
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                                                                                                                                                                                                                                                                                                                        187.50
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51.715
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Gaps:
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Last annotation update)
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940	TATCGGTGGACTTGATAAAGCTGGCCTTGGTTTAGATGTTATCTCAG	894
893 579	AAAGGCTTAGGGACTTTAGGAGACAAACTCAAAAAA ::: ::	859 563
858 562	AGTCAATTTGGTTCAA ::: AlaGlnAsnGlnThra	809 550
808 550	GCTAACAAATTCATTAATTGAAAATATTGCTAATTCAGTAAAAACACTTG: ::::: ::: ::: ::: :: :: :: ::: ::: ::: ::: ::: :: ::: :: ::: :: :: :: :: :: :: :: :: :: :	759 533
758 533	GCTCTTGCTAAAGCTGGCTTGGA::: CTTGCTAAAGCTGGCTTGGA::: CTTGCTAAAGCTGGCTTGGA	736 517
735 516	AGAATAACAGCAAC	716 500
715 500	TTTAGGCTCAGTATTGGCTGGAATGGATTTAGATGAGGCCTTAC	672 484
671 484	GTACAAAATGCAAATAAAGCCAAAACTGTATTATCTGGCATTCAATCTAT:::::: ::: ! ::: AlaLysasnSerAsnHisIleLysThrLeuGluSerAsnValGluGluGl	622 468
621 467	AAGCAGGCCAAGCATTAGGTTCTGCCGAAAGCATT:: ::: :::	587 451
586 451	ATTGCTACAGAAAACTA Line	570 434
569 434	ATTGGCTTAACTGAGCGTGGCATTGTGTTATCCGCTCCACAAATTGATAA ::: :::::::::::::::::::::::::::	520 418
519 417	GCAATAATATTGCAACAGCTCAAACCAGTTTAGGCACGATTCAAACCGCT ::::::::::::::::::::::::::::::::::	470 401
469	TTTAGTCAAAGCGGCCGAAGAGTTGGGGATTGAGGTACAAAGAGAAGAAC	420 385
419 385	CAATATGATACTGAACAAGGTAATGGTTTACAGGA	385 369
384 369	TCCCAAAAACTGGGGCAAAAAAAAATTATCCTCTATATTCCCCAAAAATTAC:::	335 353
33 4 352	CAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGATCTAGCT::	285 338
28 4 338	CTCTAGCCAGCATTG :::::::: snGlySerGlnLeuH	235 321
23 4 321	GGAGCTACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGC :::	185 313
312	::::::::::::::::::::::::::::::::::::::	296

AGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCAGTAG AGCCAGCATTGGAGCTACGGCCTGGCAGCGTAG AGCCAGCAT

												Al	ali US	ali Pe	RA RA RA RT DR DR SQ
439GAGTTGGGGATTGAGGTACAAAGAGAAAACACCAATAATATTGCAAC 485 1:::: 520 GlyGlnIleGlyAspArgValGlyGlnProGlyTyrGlyTh 533 486 AGCTCAAACCAGTTTAGGCACGATTCAAA 514	392 ATACTGAACAAGGTAATGGTTTACAGGATTTAGTCAAAGCGGCCGAA 438 ::: :::::::: 503 lyThrGlnProGlyGlyGlyGlyGlnThrGlyVallleGlyGlyGlnPro 519	388TATG 391	 331363 ::: :::::: ::: ::::::::	304AGCTACGGCCTGCGTCCGGGTGGATCT	265 AGCTACGGCCTGGCAGCGGTAGCCAAGATTGG	226AGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGG 264	198 GCGCCTGGCAGCGGTTCTCAAGATTGG	163 CGTCCGGGTGGATCTCAGCATTGGAGCTACGGCCT 197 ::: ::: :: :: :: ::	125 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTG 162 :: ::: 355 InProGlyValGlyGlnThrGlyAlaGlyGlnProGlyTyrGlySer 371	76 .TACGGCCTGCGTCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 124 ::: :::::: ::: :::	37 TACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGC	lign seg 1/1 to: Q9VTR6 from: 1 to: 1039	gnment_block: 3-09-306-689-12 x Q9VTR6	gnment_scores: Quality: 185.50 Ratio: 0.602 Percent Similarity: 48.967 Percent Identity: 22.258	Ye J., Yeh RF., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L., Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O., Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.; "The genome sequence of Drosophila melanogaster."; Science 287:2185-2195(2000). EMBL; AE003543; AAF49980.1; FIYBASE; FBgn0036231; CG5700. SEQUENCE 1039 AA; 102635 MW; 6A710871139BD01F CRC64;

1323 ATTGGCCGCTATTGCTGGTGGTGTGTGTGCTGCTGCAGCCGATTTAACAT : :::	1273 CAGCGGGGAACAGGGACTATTGATGCATCGGTTACTGCAATTAATACCGC : ::::::::::::::::::::::::::::::::	1223 AACGCTTTAAAAAATTAGGCTATGACGGAGATAATTTATTATTAGCAGAATAT 1	1176 TATTGCCGATAAATTTAATCATGCAAAAAGTTTAGAGAGTTATGCCG 1 ::::: ::: :::::: ::: 748 yAlaAlaGinSerAlaSerGlyThrLysGluGinValAlaThrTyrArgG	⊢— C	1076 TAGCCCAACGTGTTGCAGCAGGTTTATCTTCAACTGGGCCTGTGGCTGCT 1	1026 GGCAAACCAAGTTGTTGGTAATATTACCAAAGCCGTTTCTTACATTT 1		::::: LeuAlaAspAlaGlnSerSerGly	TTGTACTTGCAGATAAAAATGCTTCA	CGGTGGACTTGATAAAGCTGGCCTTGGTTTAGATGTTATCTCAGGGCTAT :::	LysAlaSerSerGlnSerGlyGlyIleIleGlnGlnSerGlnSerGluVa		97 TAAAAACACTTGACGAATTTGGTGAGCAAATTAGTCAATTTGGTTCAAAA ::::::::::::::::::::::::::::::::	747 AGCTGGCTTAGAGCTAACAAATTCATTAATTGAAAAATATTGCTAATTCAG 7 :::: ::::::::::::::::::::::::::::::	697 GATTTAGATGAGGGCCTTACAGAATAACAGCAACCAACATGCTCTTGCTAA 7 ::: ::: :::::::::::: ::: 614SerAlaMetThrSerAspAlaAspArgAlaAlaSerAlaGl 6	54/ CTGIRITATETGGCATTCAATCIATTIAGGCTCAGTALIGGCIGGAALG	AGCANTRAGGITCTGCCGAAAGCATTGTACAAAATGCAAAATACAAAGCCAAAA	67 GlyAlaAspAspAlaPheSerGlnAlaGluSerSerIleGlyAspGlyGl 5	CAGAAAACTAAAGCA	515 CCGCTATTGGCTTAACTGAGCGTGGCATTGTGTGTATCCGCTCCA 5 ::: ::: :::::: 550 hrvalproGlyAlavalGlyThrGlyGlyValvalAlaAlaGlyThrSer 5	
1372	1322 794	1272 777	1222 765	1175 748	1125 734	1075 723	709		993	946	677	968	846	796 644	746 627	613	599	- &	96	566	550

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seq_documentation_block:
ID 013083
AC 013083;
AC 01-3083;
DT 01-JUL-1997 (TrEMBLrel. 04
DT 01-JUL-1997 (TrEMBLrel. 05
DE AFGP POLYPROTEIN PRECURSOR
OS Dissostichus mawsoni.
OC Eukaryota; Metazoa; Chordai
OC Actinopterygi; Neopterygi;
OC Actinopterygi; Neopterygi;
OC Actinopterygi; Neopterinopter;
OC Notothenioidei; Nototheniii
OX NCBI_TaxID=36200;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=97268652; PubMed=9;
RA Chen L., Devries A.L., Chen
RT "Evolution of antifreeze g;
RT Antarctic notothenioid fish
RL Proc. Natl Acad, Sci. U.S
DR EMBL; U58944; AAB57731.1;
KW Signal; POlyprotein.
FT PROPEP
FT CHAIN
SEQUENCE 722 AA; 65378 1
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    Quality:
    Ratio:
Percent Similarity:
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                                                                                                                                                                                                                                          US-09-306-689-12/rev x 013083
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                                                                                                                                          2082 TCCACCCGGACGCAGGCCGTAGCTCCAATCTTG......GCTACCGC
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                                             2041 TGCCAGGGCGCAGGCCGTAGCTCCAATGCTGGCTAGAGCCACCCGGACGC 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1414
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Actinopterygii; Neopterygii; Teleostei; Buteleostei; Neoteleostei;

Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes;

Notothenioidei; Nototheniidae; Dissostichus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chen L., Devries A.L., Cheng C.H.;
"Evolution of antifreeze glycoprotein gene from a trypsinogen gene Antarctic notothenioid fish.";
Proc. Natl. Acad. Sci. U.S.A. 94:3811-3816(1997).
EMBL; U58944; AAB57731.1; -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. MEDLINE-97268652; PubMed-9108060;
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                                                                                             91 aAlaThrProAlaThrProAlaLeuIlePheAlaAlaThrAlaAlaThrP 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCTCAAAGCAAGTTGATGATCTTATCG......CAAA 1568
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hrValValValProValProGlyGluLysTyrGln 901
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProGluProValGlnTyrAspAspGluAspGluAlaAspProAspGluTy 844
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0.564
42.170
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65378 MW;
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Gaps: 25
Percent Identity: 22.527
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Last annotation update)
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ANTIFREEZE GLYCOPEPTIDE POLYPROTEIN.
; F1F3443E0A35E018 CRC64;
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1151 303	TGCATGATTAAATTTATCGGCAATACCGGCAAATGCTAATGGGCTAATCG	1200 287
1201 287	CCGTCATAGCCTAATTTTTTAAAGCGTTCGGCATAACCTCTCTAAACTTTT	1250 272
1251 271	ATGCATCAATAGTCCCTGTTCCCCGCTGATATTCTGCTAATAAATTATCT	1300 263
1301 263	AGACACACCACCAGCAATAGCGGCCAATGCGGTATTAATTGCAGTAACCG	1350 246
1351 246	ATGACAAGATTATGTTTAACTTTTTCAAATGTTAAATCGGCTGCAGCAGC :::	1400 243
1401 242	CCTCTCGGAACCAGTTTTGAATGGTCACTTTCTCTTTTTTGCTATTCGTG	1450 236
236		233
1451	TTTCTCATCTTAGTTGCTTTATAATTAGGCACTTCTTTAGCAAAATCAG	1500
232		231
ıω	: =	21
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1651	TTAGACGAGGTAAATGCACTTACAGATGAGATTAACTTATC	1700
195	::: Thre	186
1701	AACTTTGATCCAACATTGAAGTTGGA	1750
1751 185	CAGGCCGTAGCTCCAATGCTGAGATCCCCTAGCAAATTGAAGAGAAGATA : : :	1800 175
174	hralaalaThralaalaThralaalaThrProAlaThralaal	158
1801	CCACCCGGACGCAGGCCGTAGCTCCAATCTTGAGAAACC	1850
58	ralaalaThralaalaThrProAlaThrProAlaLeuAsnPheAlaAl	141
α	CTTGGCTACCGCTGCCAGGGCGCAGGCCGTAGCTCCAATGCTGGCTAG	1900
1901 141) GCCGTAGCTCCAATGCTGAGATCCACCCGGACGCAGGCCGTAGCTCCAAT ::::: ::: :: ::	1950 125
124		108
1951	CCGTAGCTCCAATCTTGAGAACCGCT	1991

217	266 CTCCAATGCTGGCTAGAGCCACCCGGACGCAGGCCGTAGCTCCAATCTTG
267 541	304 TCCAATCTTGGCTACCGCTGCCAGGGCGCAGGCCGTAG:
524	AlaAlaThrProAlaThrAlaAlaTh
305	CCCAGTTTTTGGGAAGCTAGATCCACCCGGACGCAGGCCGTAGC
515	515
355	404 CCTTGTTCAGTATCATATTGGTAATTTTGGGGAATATAGAGGATAATTTT
515	::: ::::: :::::: ::::: O1 hrAlaAlaThrProAlaThrAlaAlaPheASnPheAlaAlaThr
405	
ō i	*: 84 rProAlaThrAlaAlaThrProAlaLeuMetPheAlaAlaThrAlaAlaT
484 455	TTGCGTTCTTCTTTGTA
0	54 GCGGATAACACAATGCCACGCTCAGTTAAGCCAATAGCGGTTTGAATCGT
483	470 hrProAlaThrProAlaLeuAsnPheAlaAlaThrAlaAla 4
555	CCTGCTTTAGTTTTCTGTAGCAATTTATCAATTTGTGGA
470 .	laAlaT
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157	
655	aatactgagcctaaaatagattgaatgccaga
705 450	754 AGCCAGCTTTAGCAAGAGCATGTTGGTTGCTGTTATTCTGTAAGGCCTCA 7
138	AlaAlaThrProAlaLeuIlePheAlaAlaThrAlaAlaThrAlaAl
7.55	CTCCA
121	roAlaTh
305	ATTCGTCAA
104	AlaTh
337	877 CTAAAGTCCCTAAGCCTTTGATATTTTGTAGTTTTGAACCA 8
388	::: ThrAlaAlaT
378	TTGAGT
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916	GCGCCCGATAATAGCCCTGAGATAACATC
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338	1050 AATATTACCAACAACATTGGTTTGCCAATTCAAAACCCGCACCCACTTTTT 1
323	320 ThrProAlaThr
1051	1100 AAACCTGCTGCAACACGTTGGGCTAAAAATGTAAGAAGAAACGGCTTTGGT 1

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alignment_scores:
Quality:
Ratio:
Percent Similarity:
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US-09-306-689-12 x Q9S0T3
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ID Q9SOT3 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           seq_name: sp_bacteria:Q9S0T3
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01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-JUN-2000 (TrEMBLrel. 14,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     574 uIlePheAlaAlaThrAlaAlaThrAlaAlaThrProAlaThrAlaAlaP 591
                                                                                                                                                                                                                                                                                                                                                                                            Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases. EMBL; AB028480; BAA85089.1; -. INTERPRO; IPR001029; -. INTERPRO; IPR001492; -. PFAM; PF00669; Flagellin_N; 1. PFAM; PF00700; Flagellin_C; 1. PFAM; PR00700; Flagellin_C; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ohnishi K., Ishioka K., Matsuba T., Harayama S.; "Cloning of H antigen genes in E.coli serotypes and expression E.coli K-12.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Escherichia coli.
Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
Escherichia.
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569 AATTGCTACAGAAAACTAAAGCAGGCCAAGCATTA.
                                                                                     519 TATTGGCTTAACTGAGCGTGGCATTGTGTTATCCGCTCCACAAATTGATA 568
                                                                                                                                                        469 CGCAATAATATTGCAACAGCTCAAACCAGTTTAGGCACGATTCAAACCGC 518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN-Ulla-44;
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                                                   28 rIleGluArgLeuSerSerGlyLeuArgIleAsnSerAlaLysAspAsp. 44
                                                                                                                    15 GlnAsnAsnIleAsnLysAsnGlnSerAlaLeu.....SerSerSe
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0.639
48.987
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                68EFB39B66436342 CRC64;
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Gaps:
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22.284
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                     603
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4	blaataGlyGinAlalleAlaAsnArgPheThr 5	G
604 56	AAGCATTGTACAAAATGCAAATAAAGCCAAAACTG ::::::::: ::::: ::: sGlyLeuThrGlnAlaAlaArgAsnAlaAsnAspG	2 53
654	GCATTCAATCTATTTTAGGCTCAGTATTGGCTGGAATGGATTT	03
72	erValAlaGlnThrThrGluGlyAlaLeuSerGlu	σ
704 86	ACATGCTCTTGCTAAAGCTGGC 7 ::: :::::: uThrValGlnAlaSerThrGlv 1	53
754	GGAGCTAACAAATTCATTAATTGAAAATATTGCTAATTCAGTAAAAAA 8	03
103	asnSerAspSerAspLeuAspSerIleGlnAspGluIleLysSe 1	18
804	AGT CAATT	37
118	ArgLeuAspGluIleAspArgValSerGlyGlnThrGlnPheAsnG 1	34
838		52
	.yValAsnValLeuAlaLysAspGlySerMetLysIleGlnValGlyAl	50
852		52
151	${f snAspGlyGlnThrIleThrIleAspLeuLysLysIleAspSerAspTh}$ 1	67
853	AGGCTTAGGGACTTTAGGAGACA 8	83
167	euGlyLeuAsnGlyPheAsnValAsnGlyLysGlyThrIleAlaAsnL l	84
884	CGGTGGACTTGATAAAGCTGGCCTTGGTTTAC	33
184	${\tt laAlaThrIleSerAspLeuAlaAlaThrGlyAlaAsnValThr}$	00
س د	CTCAGGGCTATTATCGGGCGCGAAC 9	59
-	erasnilevalvalThrThrLysPheAsnAlaLeuAspAlaAlaTh 2	17
0	CACTTGTACTTGCAGAT9	81
217	PheSerLysLeuLysAspGlyAspSerValAlaValAlaAlaGlnL 2	34
982		96
234	TyrThrTyrAsnAlaSerThrAsnAspPheThrThrGluAsnThrVal 2	50
997		013
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014	TGAATTGGCAAACCAAGTTG 1	039
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131		153
	AlaThrMetSerSerLeuPheLysAlaAlaAspAspLysAspAlaAlaG 3	34
154	TTGCCGATAAATTTAATCATGCAAAA 1 ::::::	203
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	"Genome Sequence of the Radioresistant Bacterium Deinococcus radiodurans R1.";	
DR PL	Science 286:1571-1577(1999). EMBL, AE001870; AAF09665.1; TIGR: DR0075: -	
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	90 GGGTGGCTCTAGCCAGCATTGGAGCT 115 :::	
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	66 CCGGGTGGATCTCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTC 21	
	244 ThrAspGlyThrValLysLeuSerAspGlyLeuArgGlnLeuGluAlaAl 260	
	216 TCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGC 259 : :::	
	- i	
	89GGTAGCCAAGATTGGAGCTACGGCCTGCGTCCG 3	
	289 GlyGlnLeuAlaAspGlyThrAspGlnLeuAlaAlaGlyAlaLysLysAl 305	
	322GGTGGATCTAGCTTCCCAAAAACTGGGGCAAAAAAAATTATCCTCT 367 :::::: ::: ::::::: 305 aAsnGlyGlyAlaGlnGlnValAlaAlaGlyAsnLySGlnLeuAlaAlaG 322	
	68 ATATTCCCCAAAATTACCAATATGATACTGAACAAGGTAATGGTTTACAG 4 :::	
	.	
	32 GlnLeuSerSerGlyAlaAspLysLeuAla	
	468 ACGCAATAATATTGCAACAGCTCAAACCAGTTTAGGCACGATTCAAACCG 517	
	518 CTATTGGC537 ::	
	538 GGCATTGTGTTATCCGCTCCACAAATTGATAAATTGCTACAGAAAACTAA 587	
	588 AGCAGGCCAAGCATTAGGTTCTGCCGAAAAGCATTGTACAAAATGCAAATA 637	

1336 684	GACTATTGATGCATCGGTTACTGCATTAATACCGCATTGGCCGCTATTG ::: ::::: ::: :::: nGlnalaSeralaGlyAlaAspArgLeuAsnThrGlyAlaAlaGluLeuA	1287 667
667	 	651
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σ	::: :: ProGlnLeuGlnSerGlyLe	617
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617	 AlaGlyAsnLysGl	608
1190	ATTAGCCCATTAGCATTTGCCGGTATTGCCGAT!	1150
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596	rGluGly	585
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00 (GlyLeuG	6
_	GAATTGGCAAACTT CTTGGTAAG	v
568	 yAlaLysAspAlaAsnAlaGlyAlaGlnGlnValAlaAlaGlyAs	Ġ,
1020	ACAGCTAAAAAAGTGGGTGCGGGTTTT	992
552	FACTTGCAGATAA 	535
(u)	GlnGlnValAlaAlaGlyAsnLysGlnLeuAlaThrGlnLeuPrc	Ĥ
4	TAGATGTTATCTCAGGG	N
H 6	AGCIGGCC ::: AlaAsnA	502
03/		7
877 502	친그램	832 485
485	lyAlaLysAspAlaAsnAlaGlyAlaGlnGinValAlaAlaGlyAsn	469
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435		⊢
737	GAGGCCTTACAGAATAACAGCAACCAACATG	œ
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0	AlaAsnGlyGlyAlaGlnGlnValAlaGlyGlyAsnLy	د خ
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                                               2004 CTCTAGCCAGCATTGGA...GCTACGGCCTGCGCCCTGGCAGCGGTAGCC 2050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                857 GluAlaGlnGlnGlyThrThrAlaAlaValGlnGlyAla...GlnGlnLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  696
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             valGlnGlyAlaGln.GlnLeuGlyGluGlyAlaAspLysLeuAlaAlaG
ysLeuLysGluAlaGlyGlnGlySerAlaAlaAlaValGlnGlyValGln
                                                                                                                                          A......GCGGTTCTCAAGATTGGAGCTACGGCCTGCGTTCCGGGTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lyThrAlaGlnLeuSerGluGlyAlaAsnThrLeuSerSerLysLeuLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrGlyAlaSerGlnLeuAlaGluGlyAlaAspLysLeuAlaAlaGlyTh
                                                                                                                                                                                                                      AlaAlaValGlnGlyAlaGlnGlnLeuGlyGluGlyAlaAspLysLeuAl
                                                                                                                                                                                                                                                                                 GCCTGCGTCCGGGTGGATCTCAGCATTGGAGCTACGGCCTGCGCCCTGGC
                                                                                                                                                                                                                                                                                                                                      lyAlaThrThrLeuSerSerLysLeuLysGluAlaGlnGlnGlyThrThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                      uGlyGluGlyAlaAspLysLeuAlaAlaGlyThrAlaGlnLeuSerGluG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .....ATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCAT 1863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTCAATTTGCTAGGGGATCTCAGCATTGGAGCTACGGCCTGCGCC.... 1804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               alThrLeuSerSerLysLeuLysGluAlaGlnGlnGlyThrThrAlaAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         uGlyAlaThrArgLeuAlaAlaGlyThrAlaGlnLeuSerGluGlyAlaV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCGAGAAATGTATTAGTGGCTCCAACTTCAATGTTGGATCAA.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AlaGlyGlnGlySerThrAlaAlaValGlnGlyValGlnGlnLeuSerGl 790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .....ATCTCATCTGTAAGTGCATTTACCTCGTCTAATGA 1703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rAlaGlnLeu.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGCAAAATTACCCAAGATGAGCTATCAAAAGTTGTTGATAACTATGAAT 1624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hrLeuSerAsnAlaLeuProGlnLeuGluAlaGlyAlaGlyArgAlaVal 740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAAAGATGAGAAAATCGAAGAAATCATCGGTCAAAATGGCGAGCGGATC 1536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGTTCCGAGAGGCTGATTTTGCTAAAGAAGTGCCTAATTATAAAGCAA 1486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AsnGlnAlaLeuLeuProGlyGlnLeuLysGlnGlyValAlaLysValAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CATAATCTTGTCATCACGAATAGCAAAAAAAGAGAAAGTGACCATTCAAAA 1436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGGTGGTGTGTGCTGCTGCAGCCGATTTAACATTTGAAAAAGTTAAA 1386
                                                                                                                                                                                                                                                                                                                                                                                        .....GTAGCCAAGATTGGAGCTACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .....CTGGCAGCGGTTCTCAAG 1822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .....SerGluGlyAlaThrThrLeuSerSerLysLeuLysGlu 773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCTCAAACATAGCAAAAATGTGACAAACAGCTTAGATAAGTTA..... 1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCTCA.....AAGCAAGTTGATGATCTTATCGCAAAAGGTAA 1574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerGlyAlaMetGluValHisSerGlyThrAsnT
                                                                                                                                                                                                                         922
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   757
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DT 01-OCT-2000 (TrEMBLrel. 15
DT 01-OCT-2000 (TrEMBLrel. 15
DE SUFFACE PROTEIN.

GN XF1981.
OS Xylella fastidiosa..
OC Bacteria; Proteobacteria;
OC NCBL_TAXID=2371;
RN [1]
RP SEQUENCE FROM N.A.
SIMPSON A.J.G., Reinach F.
RA SIMPSON A.J.G., Reinach F.
RA Alvarenga R., Alves L.M.C.
RA Alvarenga R., Alves L.M.C.
RA Barros M.H., Bonaccorsi E.
RA Garnier M., Colombo C.,
RA COULIND- L.L., Cristofani
RA Fraga J.S., Franca S.C., F
RA Garnier M., Goldman G.H.,
RA Fraga J.S., Franca S.C., F
RA Garnier M., Goldman G.H.,
RA Ho P.L., Hobeisel J.D., Ju
RA Machado M.A., Madeira A.M.
RA Marques M.V., Martins E.A.
RA Machado M.A., Madeira C., de Olive
RA Menck C.F.M., Miracca E.C.
RA Moon D.H., Nagai M.A., Nas
RA Marques M.V., Martins E.A.
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RA Moon D.H., Nagai M.A., Nas
RA Maracues M.S., Roberto P.G.
RA Gasilva A.C.R., da Silva
RA da Silveira J.F., Silvestr
RA Gasouza A.P., Terenzi M.F.
RA Vallada H., Van Sluys M.A.
RA Zago M.A., Zatz M., Meidan
RT The genome sequence of th
RL Nature 406:151-157(2000).
DR SEQUENCE 1190 AA; 11844
                                                                                             alignment_block:
                                                                                                                                                                                                                                                       alignment_scores:
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Align seg 1/1
                                                            US-09-306-689-12 x Q9PC04
                                                                                                                                                          Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2051 AAGATTGGAGCT 2062
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=20365717; PubMed=10910347;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria; Proteobacteria; gamma subdivision; Xanthomonas
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                                                                                                                                                                                        Quality:
Ratio:
to:
Q9PC04 from: 1 to: 1190
                                                                                                                                                      168.50
0.428
46.517
                                                                                                                                                      Percent Identity:
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Last annotation update)
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40
21.842
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155 GlyLeuValAspIleSerGlyAla.....ThrTyrSerMetArgLe 168

.........GGCTCTAGCCAGCATTGGAGCTACGGCC 121

GGCCTGCGCCTGGCAGCGTTCTCAAGATTGGAGCTACGGCCTGCGTCC

90

40

122 TGCGCCCTGGCAGCGGTAGCCAA.....

.GATTGGAGCTACGCCCTG 162

168 uGlySerIleAlaThrMetAsnGlySerAlaGlyIleAspSerIleAlaI 185

· •	TCAAAAATATCGGTGGACTTGATAAAGCTGGCCTTC	887
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AL		820 424
GT Hy	ACACTTGACGAATTTG	802 407
ia .	TGCTAATTCAGTAAAA	786 390
Ď.v Ā	GCTCTTGCTAAAGCTGGCTTGGA :::::: ::: LeuIleThrLysThrTh	
AT eu	TGGCTGGAATGGATTTAGATGAGGGCCTTACAGAATAACAGCAACCAAC	686 361
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H C	GATTCAAACCGCTATTGGCTTAACTGAGCGTGGCATTGTGTTATCCGCT::::::::::	507 298
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< ⊅	AATTATCCTCTATATTCCCCAAAATTACCAATATGATACTGAI	357 258
· Þ	TACGGCCTGCGTCCGGGTGGATCTAGCTTCCCAAAAACTGGGGCAAAAA	307 249
a ∪	ATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTÄGCCAAGATTGGAG :::::::::::::::::::::::::::::	260 232
H Ö	TTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAG	213 218
<u>≃</u> 6	CGTCCGGGTGGATCTCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCG :::	163 202
Ħ	::: ::: ::: eGlySerGlyGlnGlySerLysThrAspGlyAsnThrSerGlyAlaTh	L85

157	YITPASTLEULEUALASETGIYALAASTSETSETASTVALALAPTOGIYG AGOGGATOAOOTTOAAAGOTAGTTGATGAT	1529
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151 722	GCAACTAAAGATGAGAAAATCGAAGAAATC	1483 706
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112 554	CCAACGTGTTGCAGCAGGTTTATCTTCAACTGGGCCTGTGGCTGCTTTAA :::::: :::	1080 539
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103 522	TGGGTGCGGGTTTTGAATTGGCAAACCAAGTT :: ::: ::: :::	100 <u>7</u> 506
100 506	AACAGCTGCACTTGTACTTGCAGATAAAAATGCTTCAACAGCTAAAAAAG	957 489
489	:::::::: TrpAsnLeuLeuAlaSerGlyThrAsnSerSerAsnValAlaProGlyAl	473
956	TTAGATGTTATCTCAGGGCTATTATCGGGCGC	925
472	laValAsnPheGlyGlnLeuGlnAlaValSerAspThrAlaSerLysGly	456

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seq_documentation_block:
ID 068729 PRELIMINA
AC 068729 PRELIMINA
AC 068729
DT 01-AUG-1998 (TYEMBLIPE
DT 01-AMY-2000 (TYEMBLIPE
DE PROTEIN HIL514 HOMOLO
GN Y1044 OR YPMT1.11C.
OS YERSINIA PESTIS.
OG Plasmid pMT1, and Pla
OC Plasmid pMT1, and Pla
OC STRAIN-632;
RN (1)
RP SEQUENCE FROM N.A.
RC STRAIN-KIM;
RA HU P., Elliott J., MC
RA KOBAYAShi A., CATRANO
RL SUBMITTED (MAR-1998)
RN [2]
RN SEQUENCE FROM N.A.
SUBMITTED (MAR-1998)
RN SEQUENCE FROM N.A.
SUBMITTED (MAR-1998)
RN SEQUENCE FROM N.A.
STRAIN-KIM;
RP SEQUENCE FROM N.A.
STRAIN-KIM;
RP SEQUENCE FROM N.A.
STRAIN-KIM10+;
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                                                           Hu P., Elliott J., McCready
Kobayashi A., Carrano A.V.,
Submitted (MAR-1998) to the
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                                                                                                                                                                                                                     Bacteria; Proteobacteria;
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rAsnValAlaAlaGlyThrAlaAspThrAspAlaValAsnLeuSerGlnL
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gamma
                                                              P., Skowronski E., (
Brubaker R., Garcia
EMBL/GenBank/DDBJ da
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Last annotation update)
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alignment_block:
US-09-306-689-12 x
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Quality:
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Submilted (SEP-1999) to the EMBL/GenBank/DDBJ
EMBL; AF035947; AAC13170.1; -.
EMBL; AF074611; AAC82704.1; -.
EMBL; AL117211; CAB55193.1; -.
Plasmid; Hypothetical protein.
SEQUENCE 1525 AA; 162113 MW; F14C1CB0B1434
 640
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Submitted (SEP-1999) to
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                                                                                                                      {\tt ProIleGlyAlaAlaPheThrValAlaThrValAlaValAlaGlyLeuIl}
                             TAGCCAAGATT.....GGAGCTACGGCCTGCGTCCGGGTGGATCTAGCT
                                                                                                                                                                                     hrGlyLeuGlnGlyAlaPheAlaGlyLeuThrAlaPheIleAlaAlaAsn
                                                                                                                                                                                                                                                                                                                                        GCCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGATCTCAGCATT....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCTACGGCCTGCGTGGCTGGCTCTAGCCAGCATTGGAGCTACGGCC.
leArgLysIleProGluAlaMetThrAlaAlaLysArgAlaGlnMetAla
                                                             eThrTyrMetThrMetLeuArgSerGluThrSerLysValValAspGluI
                                                                                                                                                     AAGATTGGAGCTACGGCCTGCGTC...CGGGTGGCTCTAGCCAGCATT..
                                                                                                                                                                                                                                                 tGlyLeuAlaProIleProSerLeuIlePheAlaIleArgGlyAlaIleT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleSerLeuGlyLysValValAlaMetValAlaPhe.....
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                                                                                          .........GGAGCTACGGCC.....TGCGCCCTGGCAGCGGTTCTC
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Parkhill J., Barrell B.G., Rajandream
SEP-1999) to the EMBL/GenBank/DDBJ data
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1116	1111
913	:: erAlaThrTyrGlnArgThrLeuProAspGlyThrAlaMe
1110	82 AACGTGTTGCAGCAGGTTTATCTTCAACT
9	
1081	CCTTACATTTTAGCC
80	::: :::::
1049	TGGGTGCGGGTTTTGAATTGGCAAACCAAGTTGTTGC
864	::::: ::: ::: 48 alAlaGlnGluLeuThrGlnAlaGl
1005	AACAGCTGCACTTGTACTTGCAGATAAAAATGCTTCAACAGC
848	7SerIleArgGlyTyrGlnGluHisLeuGluA
955	GGTTTAGATGTTATCTCAGGGCTATTATCGGGC
836	:::
914	TAGGGACTTTAGGAGACAAACTCAAAAATATCGGTGGACTTGATA <i>F</i>
824	HisPheSerAspMetLeuGluLys
864	GCAAATTAGTCAAATTTGGTTCAAAACTACAAAATATCAA
809	GlnLysLeuValTyrAspLeuSerSerArgLysAsnAlaThro
814	CATTAATTGAAAATATTGCTAATTCAGTAAAAACACTT
794	uLeuAlaProLeuArgGluLysValAsnLysSerTyrLeuGlu
764	CTCTTGCTAAAGCTGGCTTGGAGCTAA
777	AsnAspAspLysSerLeuSerAspAspGluLys
735	TGGATTTAGATGAGGCCTTACAGAATAACAGCAACCAAC
764	argGlnGluAlaLeuAspLysIleGlnLysIl
685	9 AGCCAAAACTGTATTATCTGGCATTCAATCTATTTTAGGCTCAG
752	aAspAsnGlnValPheSerAla1
638	CAGGCCAAGCATTAGGTTCTGCCGAAAGCATTGTACAAAATGCAAA1
588 740	39 GCATTGTGTTATCCGCTCCACAA :::::::::::: 26 rgLeuAlaLysGluAla
N	9 rGluargThrThrGlyThrmetAlaLeuGlyAspGlyAlaValAlaLys
	89 TCAAACCAGTTTAGGCACGATTCAAACCGCTATTGGCTTAACTG
709	luValValGluAlaArgLeuLysLys
488	39 GAGTTGGGGATTGAGGTACAAAGAGAAGAACGCAATAATA
438 695	AGGTAATGGTTTACAGGATT aGlyProVal <i>P</i>
682	Tyr
388	AACTGGGGCAAAAAAATTATCCTCTATATTCCCCCAAAATTACC
339 673	335 TCCCA

1790	GATCAAAGTTTATCTTCTCTTCAATTTGCTAGGGGATCTCAGCATTGGAG	1741
1210	spPheSerSerLeuAlaGluSerIleLeuArgAspIleThrAsnMet	1194
1740	CCTCGTCTAATGATTCGAGAAAATGTATTAGTGGCTCCAACTTC	1691
1690 1194	CTCATCTGTAAGTGCATTTA:::::::::::::::::::::::::::::::::	1671 1177
1670 1177	GAATTGCTCAAACATAGCAAAAATGTGACAAACAGCTTAGATAAGTTAAT	1621 1163
1162	laLe	14
1146 1620	lAlaLeuTyrThrLysGlnIleA	1129 1579
1578	TCAAAGCAAGTTGATGATGTTATCGCAAAAGGTAACGGC	1540
1129	LeuLysAlaLeuMetAspLeuArgAspGlnAlaSerAspProLysIleVa	1113
1520		5 0
1533	CAACTAAAGATGAGAAAATCGAAGAAATCATCGGTCAAAATGGCGAGCGG	1484
1096	_	1080
1483	AAACTGGTTCCGAGAGGCTGATT	1434
1080	ASPASPTYrArgGlumetPheAsnArgAsnAvalGluGlnMetIleSe	1064
1063	luMetIleAspLysAlaLysSerArgLeuAlaAspLeuAlaAsnAlaSe	_
1398	TAACATTTGAAAAGTTAAACATAATCTTGTC	36
1047	::: ::: ::: SSerLeuThrGluLeuAlaAsnAlaValF	1030
1366	CGCATTGGCCGCTATTGCTGGTGGTGTGTCTGCTGCTGCAGCCGA	1320
1319 1030	TATCAGCGGGAACAGGGACTATTGATGCATCGGTTACTGCAATTAATAC ::::::::	1270 1014
1013	yrGlnLysAlaLeuAspLysAlaAspGlnLeuMetGlyGlnMo	997
1269	ATGACGGAGATAATTTA	1244
997		980
1243	TCATGCAAAAAGTTTAGAGAGTTATGCCGAACGCTTTAAAAAATTAGGC	1194
980	AspAlaAlaAlaAlaGluLysAlaGlyGlnArgThrAlaAsnAlaSer	964
1103	EBBY V V EX COORES VENO CORRES VOCA VENO COORES VENO COORES VOCA VENO COORES VENO CO	1 .
1146 963	GTGGCTGCTTTAATTGCTTCTACTGTTTCT	1117
947	nLeuAsnLeuGlnLysAlaSerSerAlaSerSerLeuG	930
1116		1116
930		914

í	1326 erSerValThrGlyAlaLeuSerAlaAlaPheAlaMetLeuGlyAla 1341	1326
2	GGAGCTACGGCCTGCCCTGGCAGCGGTAGCCAAGATTGGAGCT 2062	2018
1326	1309 pAlaGluThrLysAlaValLysThrSerIlePheSerMetGlnAsnLeuS 1326	1309
2017	1978 TGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATT	978
1309	<pre>(293 AlaIleGlyAsnTrpValAsnGlyLeuPheThrSerThrGluAlaLysAs 1309</pre>	1293
1977	GCCCTGGCAGCGGTTCTCAAGAT	1955
1292	1277 lyGlnThrThrGlnGlnThrThrSerAlaIleGlySerAlaThrAsn	1277
1954	GAGCTACGGCCTGCGTCCGGGTGGATCTCAGCATTGGAGCTACGGCCTGC	1905
1277	SerValGlyGluAlaThrLysGluThrSerSerValSerGlyLeuG	1260
1904		1859
1260	SerAlaValAlaAsnGlnGlyValArgMetAsnAlaValAsnGlyAspLy	1244
1858	AAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCC	1820
1243	hrThrAlaAlaGlySerSerGlnSerGlyAsnLeuLeuSerGlyValAla	1227
1819		1791
1227	1211 .ValLysThrGlnIleThrLeuProLeuMetAsnMetLeuGlyMetGlyT	1211

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Swissprot 39:CYAA_BORRE + 212.00 196.29 0.

Swissprot 39:CYAA_BORRE + 206.50 191.11 0.

Swissprot 39:K2Z0_HUWAN + 166.50 160.50 0.

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Swissprot 39:K1Z1_HUWAN + 166.00 157.44 0.

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Swissprot 39:K1Z1_HUWAN + 165.00 143.41 0.

Swissprot 39:TALI_MOUSE + 150.00 143.41 0.

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Swissprot 39:TALI_HUWAN + 155.50 146.95 0.

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Swissprot 39:TALI_HUWAN + 155.50 146.10 0.1

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Swissprot 39:TALI_HUWAN + 144.50 135.89 0.

Swissprot 39:TALB_CAUGE + 144.50 135.89 0.

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Database sequences: 88757
Database length: 32294092
Search time (sec): 97.840000
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-Q=/Cgn2_1/USPTO_spool/US9306689/runat_02032001_102830_9659/app_query.fasta_1.2389
-DB=SwissProt_39 -CPMT=fastan -SUFFIX=rsp -GAPOP=12 .000
-GAPEXT=4.000 -MINMATCH=0.100 -LOOPCL-0.000 -LOOPEXT=0.000
-QGAPEXT=4.000 -GAPEXT=7.005 -XAAPOP=10.000 -XAAPEXT=0.500
-GAPOP=6.000 -GAPEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500
-DELOP=6.000 -DELEXT=7.000 -START=1 -MATRIX=blosum62
-TRANS=human40.cdi -LIST=45 -DOCALICN=200 -THR_SCORE=PCt
-THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL -OUTFMT=pfs
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Glaser P., Ladant D., Sezer O., Pichot F., Ullmann "The calmodulin-sensitive adenylate cyclase of Bord cloning and expression in Escherichia coli."; Mol. Microbiol. 2:19-30(1988)
MEDLINE-99214144; PubMed=10196151;
Basar T., Havlicek V., Bezouskova S., Halada P., Hackett M., Sebo P.;
Basar T., Havlicek V., Bezouskova S.,
"The conserved lysine 860 in the additional fatty-acylation site of
Bordetella pertussis adenylate cyclase is crucial for toxin function
independently of its acylation status.";
J. Biol. Chem. 274:1077-10783(1999).
-I- FUNCTION: THIS ADENYLATE CYCLASE BELONGS TO A SPECIAL CLASS OF
BACTERIAL TOXIN. IT CAUSES WHOOPING COUGH BY ACTING ON MAMMALIAN
CELLS BY ELEVATING CAMP-CONCENTRATION AND THUS DISRUPTS NORMAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=91266896; PubMed=2050107; Glaser P., Munier H., Gilles A.-M., Krin E., Porumb T., Barz Sarfati R., Pellecuer C., Danchin A.; "Functional consequences of single amino acid substitutions calmodulin-activated adenylate cyclase of Bordetella pertuss EMBO J. 10:1683-1688(1991).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-91177021; PubMed-2007407;
Munier H., Gilles A.-M., Glaser P., Danchi
"Isolation and characterization of catalyt
domains of Bordetella pertussis adenylate
Eur. J. Biochem. 196:469-474(1991).
                                                                                                                                                                                                                                        PALMITOYLATION AT LYS-860
                                                                                                                                                                                                                                                                                  "Internal lysine palmitoylation Bordetella pertussis."; Science 266:433-435(1994).
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Glaser P., Sakamoto H., Bellalou J., Ullmann A., Danchin A.;
"Secretion of cyclolysin, the calmodulin-sensitive adenylate
haemolysin bifunctional protein of Bordetella pertussis.";
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PPIAM; PF00353; hemolysinCabind; 5.
PRINTS; PR00313; CABNDNGRPT.
PROSITE; PS00330; HEMOLYSIN CALCIUM; 5.
Lyase; cAMP synthesis; ATP-binding; Hemolysis; Toxin;
Lyase; cAMP synthesis; ATP-binding; Repeat; Lipoprotein;
Whooping cough; Calcium-binding; Repeat; Lipoprotein;
Whooping cough; Calcium-binding; CALMODULIN-SENSITIVE ADEN
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SIMILARITY: IN THE C-TERM
PROKARYOTIC TOXIN FAMILY.
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PTM: PALMITOYLATED BY CYAC. THE TOXIN ONLY BECOMES ACTIVE WHEN
MODIFIED IN POSITION LYS-983.
SIMILARITY: IN THE N-TERMINAL SECTION; BELONGS TO ADENYLYL CYCLASE
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DOMAIN: THE GLY-RICH REGION IS PROBABLY INVOLVED IN
CALCIUM, WHICH IS REQUIRED FOR TARGET CELL-BINDING O
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seq_documentation_block:
ID CYAA_BORBR STANDARD;

PRT;

1705 AA

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01-NOV-1997 (Rel. 35, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
BIFUNCTIONAL HEMOLYSIN-ADENYLATE CYCLASE PRECURSOR (CYCLOLYSIN) (ACT)
(AC-HLY) [CONTAINS: CALMODULIN-SENSITIVE ADENYLATE CYCLASE); HEMOLYSIN]
(EC 4.6.1.1) (ATP PYROPHOSPHATE-LYASE) (ADENYLYL CYCLASE); HEMOLYSIN]
CYA OR CYAA.
                                                                                                NP_BIND
                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
              REPEAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (APR-1997) to the EMBL/GenBank/DDBJ databases.
1: FUNCTION: THIS ADENYLATE CYCLASE BELONGS TO A SPECIAL CLASS OF
EACTERIAL TOXIN. IT CAUSES WHOOPING COUGH BY ACTING ON MAMMALIAN
CELLS BY ELEVATING CAMP-CONCENTRATION AND THUS DISRUPTS NORMAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gene 162:165-166(1995)
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SIMILARITY: IN THE N-TERMINAL SECT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CATALYTIC ACTIVITY: ATP = 3',5'-CYCLIC AMP + PYROPHOSPHATE. ENZYME REGULATION: ACTIVATED BY HOST CALMODULIN.
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alignment_block:
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Percent Similarity:
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......GlnArgLeuValHisAlaIleAl 480
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Gaps: 11
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	Dictyostelium discoideum (Slime mold). Eukaryota; Dictyosteliida; Dictyostelium. [1]	R O S
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	documentation_block: TALA_DICDI STANDARD; PRT; 2491 AA. PS4633;	seq.
	name: SwissProt_39:TALA_DICDI	seq
	1349 CTGCTGCAGCC 1362 682 erIleAlaAlaAla 686	
1348 682	1299 ATCGGTTACTGCAATTAATACCGCATTGGCCGCTATTGCTGGTGGTGTGT 1 :::: ::::::::::::: :::::::: 665 YALAVALAIAGIYVALSerAlaVaLLeuSerThrValGlyAlaAlaValS	
1298	1249 GGAGATAATTTATTAGCAGAATATCAGCGGGGAACAGGGACTATTGATGC 1 ::: 649 GlyAspAlaLeuLeuAlaGlnLeuTyrArgAspLysThrAlaAlaGluGl 6	
1248	1199 CAAAAAGTTTAGAGAGTTATGCCGAACGCTTTAAAAAATTTAGGCTATGAC 1 :: :::: :::: :::: :::: 	
1198 532	1149 TGCGATTAGCCCATTAGCATTTGCCGGTATTGCCGATAAATTTAATCATG 1	
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598	1061 TTTCTTACATTTTAGCCCAACGTGTTGCAGCAGGT 1 :: ! ! ! 582 laSerSerIleAlaLeuAlaLeuAlaAlaArgGlyValThrSerGly	
1060 582.	AAACCAAGTT ::: aLeuGlnLeu	
1010 565	TCAACAGCTAAAAAAGTGGG ::::::: ::::: ProAlaGlyGlnLysAlaAl	
960 553	911 AAGCTGGCCTTGGTTTAGATGTTATCTCAGGGCCTATTATCGGGCGCAACA 9 ::: :::::: 547 laValGlyAlaGlyMetSer	
910 547	861 AGGCTTAGGGACTTTAGGAGACAAACTCAAAAATATCGGTGGACTTGATA 9 :: ::: ::: 530 yGlyPheGlyValAlaGlyGlyAlaMetAlaLeuGlyGlyGlyIleGlyA 5	
360 _.	826 ATTAGTCAATTTGGTTCAAAACTACAAAATATCAA 8 ::::::::::::::::::::::::::::::::::	
825 513	ETTGACGA	
775 497	744 TAAAGCTGGCTTGGAGCTAACAAATTCATTAA 7 ::: :::	

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alignment_scores:
Quality:
Ratio:
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US-09-306-689-12 x TALA_DICDI
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DICTYDB; DD01121; TALA.
INTERPRO; IPR000299; -.
INTERPRO; IPR002258; -.
INTERPRO; IPR002558; -.
PFAM; PF010373; Band_41; 1.
PFAM; PF01068; I_LWEQ; 1.
PFAM; PF01068; I_LWEQ; 1.
PFAM; PF010661; BAND_41_1; 1.
PROSITE; PS00661; BAND_41_2; 1.
PROSITE; PS00661; BAND_41_3; 1.
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J. Cell Biol. 129:179-188 (1995)
-I- FUNCTION: ACTIN-BINDING PROTEIN THAT MAY BE INVOLVED IN THE CONTROL OF CELL MOTILITY AND CHEMOTAXIS.
-I- SUBCELLULAR LOCATION: CYTOPLASMIC; RAPIDLY ASSEMBLES AT THE LEADING EDGE OF CELLS IN RESPONSE TO CHEMOATTRACTANT.
-I- SIMILARITY: CONTAINS A DOMAIN FOUND IN BAND 4.1, EZRIN, MOESIN,
                                                                                                                                        694
                                                                                                                                                                                                                                                                      655
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            559 CAAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAGCATTAGGTTC 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      412 TTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGGATTGAGGTACAAAG 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Structural protein; Cytoskeleton; Actin-binding.

DOMAIN 134 294 BAND 4.1-LIKE.

SEQUENCE 2491 AA; 268811 MW; B24FF0224F2A419B CRC64;
723 CAGCAACCAACATGCTCTTGCTAAAGCTGGCTTGGAGCTAACAAATTCA. 771
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                                                                                                                                                                                           euAspArgArgSerAsnAspValSerIleSerThrAlaAlaLeuValGly 1148
                                                                                                                                                                                                                                                                                                                                aSerArgSerValArgSerAsnProAsnAspArgArgSerGluLeuLeuL 1132
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Percent Identity: 22.000
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, 11 , 7	65 72	eSerAsnLeuLeuSerLeuLysMetGlySerLeuGluSerIleLeuSerG 1TraarTgaaaaTaTTGCTaaTTCAGTa 7: ::: ::: :::	1182 798
: ,		GACGAATTTGGTGAGCAAATTAGTCAATTTGGTTCAAAACT ::: ::::: ::: AsnalaalaSerGlnGlnValValAlaMetAlaargas	848 1214
H	849 AC	ATATCAAAGGCTTAGGGACTTTAGGAGACAAACTCAAAAATATCG ::: ::: snLeuLysGlyLeuGlyAla	898 1222
12	99 23	GTGGACTTGATAAAGCTGGCCTTTGGTTTAGATGTTATCTCAGGGCTATTA 9 ::: :::::::)48 235
1	949 TC	CGCAACAGCTGCACTTGTACTT.)86 [252
9 12	87	> 2	1265
103 126	37 TT :: 65 Le	GTTGGT ::: :1leGlyLeuLeuAspPheSerLysAla	044 281
10 12	045 282 Pr	OlleTyraspGlnAsnLeuIleAsnGlnAlaLysSerValG	1070
107 129	8	CATTTTAGCCCAACGTGTTGCAGCAGGTTTATCTTCAACTGGG 1 :::::::	1113 [†] 1313
1114 1313	114 113 hr	CCTGTGGCCTGCTTTAATTGCTTCTACTGTTTCTCTTT	1149 1329
115 133	50	GCGATTAGCCCATTAGCATTTGCCGGTATTGCCGATAAATTTAA ::: pLysThrIleLeuProaspThrSerGlyLeuGlnThrAsnalahi	1193 1345
119 134	5 . H		1231 1362
12 13	32 AA 11 62 ys	AAAAATTAGGCTATGACGGAGAGAATATTTAGTAGCAGAATATCAGCGG 1 ysLysLeuGlySerIleThrSerAsnLeuValAsnSerLysAsnAsnSer. 1	1278 1378
12 13	79 79 As	GGAACAGGGACTATTGATGCA	1299 1395
13 13	00 95 eG1	TCGGTTACTGCAATTAATACCG	1321 1412
13 14	22 CA 12 sp	GCTGCAGCCGATTTAACA ::: AlaSerGlnMetLeuThr	1371 1428
13 14	72 TT 29 Al	TGAAAAAGTTAAACATAATCTTGTCATCACGAATAGCAAAAAAGAGAA 1 :::::::::	421
14	22 AG	TGACCATTCAAAACTGGTTCCGAGAGGCTGATTTTGCTAAAGAAGTGC	1471 ,

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01-FEB-1996 (Rel. 33, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
KERATIN, TYPE II CYTOSKELETAL 1 (CYTOKERATIN
CYTOKERATIN) (HAIR ALPHA PROTEIN).
   Johnson L.D., "Structure of
                                                                  SEQUENCE FROM N.A. MEDLINE=85166239; PubMed=2580302;
                                                                                                                                                                                                                                                           Homo
                                                                                                                                                                                                                         Eukaryota;
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                                                                                                                                                                                 Mammalia;
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ryota; Metazoa; Chordata;
alia; Eutheria; Primates;
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Catarrhini;
                                    X.-M.,
M., Roop D.
epidermal
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   67-kDa
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   Steinert P.M.;

kDa keratin.";
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MEDLINE=93107743; PubMed=1281859;
Korge B.P., Compton J.G., Steinert P.M., Mischke "The two size alleles of human keratin 1 are due glycine-rich carboxyl-terminal V2 subdomain.";
J. Invest. Dermatol. 99:697-702(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chipev C.C., Korge B.P., Markova N., Bale S.J., Compton J.G., Steinert P.M.;

"A leucine->profile mutation in the H1 subdomai causes epidermolytic hyperkeratosis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Amino acid sequences of mouse and human epidermal type of Mr 67,000 provide a systematic basis for the structur functional diversity of the end domains of keratin interface."
                                                                                                                                                                                                                                                                                                                                                                "Mutations in the rod domains hyperkeratosis."; Science 257:1128-1130(1992).
                                                                                                                                                                                                                                                                                                                                                                                              Rothnagel J.A., Dominey A.M., Dempsey L.D., L
Greenhalgh D.A., Gagne T.A., Huber M., Frenk
"Mutations in the rod domains of keratins 1 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VARIANTS EHK PRO-185 AND SER-187.
MEDLINE=94117870; PubMed=7507152;
MCLean W.H.I., Eady R.A., Dopping-Hepenstal P.J., M.
Leigh I.M., Navsaria H.A., Higgins C., Harper J.I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            epidermolytic hyperkeratosis.";
J. Invest. Dermatol. 102:17-23(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VARIANTS EHK GLY-154; SER-187 AND PRO-192
MEDLINE-94117869; PubMed-7507151;
Yang J.-M., Chipev C.C., Digiovanna J.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. Whittock N.V., Eady R. "Genomic organization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        congenital
                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=92376531; PubMed=1380725;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Mutations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Morley S.M.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY SEQUENCE OF 151-643 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Mutations in the H1 and 1A domains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REVISIONS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        J. Biol. Chem. 260:7142-7149(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      filament subunits."
                                                                                                                                                             SUBUNIT: HETEROTETRAMER OF TWO TYPE I AND TWO TYPE II KERAY.
KERATIN 1 IS GENERALLY ASSOCIATED WITH KERATIN 10.
TISSUE SPECIFICITY: THE SOURCE OF THIS PROTEIN IS NEONATAL
FORESKIN. THE 67-KOA TYPE II KERATINS ARE EXPRESSED IN TERN
DIFFERENTIATING EPIDERMIS.
POLYMORPHISM: THERE ARE TWO SIZE VARIANTS OF KRT1, TERMED
                                                                     1B WITH ALLELIC FREQUENCIES OF 0.61 AND 0.39. 1B LACKS 7 LACKS 7 RESIDUES COMPARED TO 1A.
7 RESIDUES COMPARED TO 1A.
DISEASE: DEFECTS IN KTT10 AND KRT1 ARE THE CAUSE OF EPIDERMOLYTIC HYPERKERATOSIS (EHK) (ALSO KNOWN AS BULLOUS CONGENITAL ICHTHYOSIFORM ERYTHRODERMA (BIE)); A HEREDITARY SKIN DISORDER CHARACTERIZED BY BLISTERING AND A MARKED THICKENING OF THE STRATU
         MISCELLANEOUS: THERE ARE TWO TYPES OF CYTOSKELETAL MICROFIBRILLAR KERATIN: I (ACIDIC; 40-55 KDA) [K9 (NEUTRAL TO BASIC; 56-70 KDA) [K1 TO K8]
                                                          CORNEUM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   70:821-828(1992).
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(NEUTRAL TO BASIC; SIMILARITY: BELONG

BELONGS

TO THE

INTERMEDIATE

FILAMENT FAMILY

TO

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alignment_block:
US-09-306-689-12 x K2C1_HUMAN
                                                                                                                       alignment_scores:
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Percent Similarity:
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HSSP; P05412; 1FOS.
AARHUS/GHENT-ZDPAGE; 4606; NEPHGE.
MIM; 13935; -.
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INTERPRO; IPRO03054; -.
PFAM; PF00038; filament; 1.
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                                                        Length: 753
Gaps: 31
Percent Identity: 20.717
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E -> Q (IN EHK).
/FTId=VAR_003861.
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S -> P (IN EHK).
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TAIL.
COIL 1A.
LINKER 1.
COIL 1B.
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COIL 2.
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S -> P (IN EHK).
/FTId=VAR_003855.
N -> S (IN EHK).
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MISSING (IN ALLELE 1B).
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DF945DC462257850 CRC64;
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PHOSPHORYLATION (BY SIMILARITY).
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GLY/PHE/SER-RICH.
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L -> P (IN EHK).
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Align seg 1/1 to: K2C1_HUMAN from: 1

to: 643

728 259	678 252	628 236	583 219	540 204	493 188	443 174	393 169	355 153	337 136	310 119	277 105	227 89	177 72	127 59	101 42	25	40
ACCAACATGCTCTTGCTAAAGCTGGCTTGGAGCTAACAAATTCATTAATT 77	CTCAGTATTGGCTGGAATGGATTTAGATGAGGCCTTACAGAATAACAGCA 72 ::: pSerGluLeuLysasnMet	AATGCAAATAAAGCCAAAACTGTATTATCTGGCATTCAATCTATTTTAGG 67 ::::: ::::: AsnLeuArgArgValAspGlnLeuLysSerAspGlnSerArgLeuAs 25	ACTAAAGCAGGCCAAGCATTAGGTTCTGCCGAAAGCATTGTACAA 62 :::::: :::::: hrSerThrargThrHisAsnLeuGluProTyrPheGluSerPheIleAsn 23	CATTGTGTTATCCGCTCCACAAATTGATAAATTGCTACAGAAA 582 : :::::: nGlnValLeuGlnThrLysTrpGluLeuLeuGlnGlnValAspT 219	ACCAGTTTAGGCACGATTCAAACCGCTATTGGCTTAACTGAGCGTGG 53 ::::::::::::::::::::::::::::::::::::	TGGGGATTGAGGTACAAAGAGAAGAAGGCAATAATATTGCAACAGCTCAA 49 ::: ::: ::: ::: ::: ::: :::	TACTGAACAAGGTAATGGTTTACAGGATTTAGTCAAAGCGGCCGAAGAGT 44	AAAATTATCCTCTATATTCCCCAAAATTACCAATATGA 39 :::::		.GGCCTGCGGGTGGATCTAGCTTC	CGCCCTGGCAGCGGTAGCCCAAGATTGGAGCTAC	GCTACGGCCTGCGGGTGGGCTCTAGCCAGCATTGGAGCTACGGCCTG 276	TCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGA 22 :::	CCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGATC 17	GCCAGCATTGGAGCTACGGCCTGCGC 12 :::::: !+ :::+ lyG1yArgPheSerSerCysG1yG1yG1yG1yG1ySerPheG1yAlaG1y 58	CGTCCGGGTGGCTCTA 100 nTyrGlnArgArgThrThrSerSerSerThrArgArgSerGlyGlyGlyG 42	GCCTGCCCCTGCCAGCGGTTCTCAAGATTGGAGCTACGGCCTG 84
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1697	ACAAACAGCTTAGATAAGTTAATCTCATCTGTAAGTGCATTTACCTCGTC	1648
471	aArgLeuLeuArgAspTyrGlnGluLeuMetAsnTh	4'57
1647	ATCAAAAGTTGTTGATAACTATGAATTGCTCAAACATAGCAAAAAT	1598
1597 457	AGTTGATGATCTTATCGCAAAAAGGTAACGGCAAAATTACCCCAAGATGAGC::::::: :::::: sleuAsnAspLeuGluAspAlaLeuGlnGlnAlaLysGluAspL	1548 442
1547 442	GTCAAAATGGC ::: ::: lyGluAsnAla	1498 428
427	:::::: ::: ::: snValLysLysGlnIleSerAsnLeuGlnGlnSerIle	411
1497	TTTTGCTAAAGA	1451
1450 411	AAAAGAGAAAGTGACCATTCAAAACTGGTTCCGAGAGGG	1413 394
1412 394	AAACATAATCTTGTCATCACGAATAGCAA ::: ::: leThrAlaGlyArgHisGlyAspSerValArgAsnSerLy	1378 378
377	GlnLys	361
1377	TGCTGGTGGTGTGTCTGCTGCTGCAGCCGATTTAACATTTGA	1328
361	GGGAACAGGGACTATTGATGCAFCGGTTACTGCAATTATACCGCATTGG	353
υ C	AspLeuAspSerIleIleAlaGlu	4 (
ı N	TTAAAAAATTAGGCTATGACGGAGATAATTTATTAGCAGAATAT	
344	allleLeuSerMetAspAsnAsnArgSerLeu	334
1227	TGCCGATAAATTTAATCATGCAAAAAGTTTAGAGAGTTATGCCGAACGC	1178
1177 334	ATTAGCATTTGCCGGTA:::::::::::::::::::::::	1128 317
317		314
1127	CGTGTTGCAGCAGGTTTATCTTCAACTGGGCCTGTGGCTGCTTT	1078
313	Phe	304
1077	CCAAAGCCGTTTCTTCTTACATTTTA	1028
303	::: ::: AspLeuGlnAlaLys	298
1027	ATAAAAATGCTTCAACAGCTAAAAAAGTGG	978
298		293
977	GCACTTGTACTTGC	928
292		288
927	CTGGCCTTGGTTTA	878
287	::::::::::::::::::::::::::::::::::::::	277
877		828
276	:::	263
827		778

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seq_name: SwissProt_39:K220_HUMAN
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Q01546;
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                                                                           HOMO sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
KERATIN, TYPE II CYTOSKELETAL 2 ORAL (CYTOKERATIN 2P) (K2P)
(CK 2P).
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                                                                 ·!- SIMILARITY: BELONGS TO THE INTERMEDIATE FILAMENT FAMILY.
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                                                             383
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                                                                                                                345 TGGGGCAAAAAATTATC......CTCTATATTCCCCCAAAATT 382
                                                                                                                                              140 PheGlyGlyProGlyPheGlyProGlyGly.....PhePro...G1 153
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433 GCCGAAGAGTTGGGGATTGAGGTACAAAGAGAAGAACGCAATAATATTGC
                              170 alGluIleAspProGlnIleGly.....
                                                                                                                                                                                                                                                                                                                                                        145 GATTGGAGCTACGGCCTGCGTCCGGGTGGATCTCAGCATTGGAGCTACGG 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRINTS; PR01276; TYPE2KERATIN.
PROSITE; PS00226; IF; 1.
Intermediate filament; Coiled coil; Heptad repeat pattern;
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INTERPRO; IPR001664; -.
INTERPRO; IPR003054; -.
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                                                                                                                                                                                                                                                                                                                                91
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               88
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                                                         ACCAATATGATACTGAACAAGGTAATGGTTTACAGGATTTAGTCAAAGCG
                                                                                      yGlyIleGlnGluValIleValAsnGlnSerLeuLeuGlnProLeuAsnV 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            lyGlyAlaGlyGlyPheGlyGlyProGlyValPheGlyGlyProGlySer
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Gaps: 37
Percent Identity: 23.161
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ROD.
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LINKER 1.
COIL 1B.
LINKER 12.
COIL 2.
PHOSPHORYLATION (BY SIMILARITY).
MW; 9B743A8B872076AF CRC64;
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1331	GACTATTGATGCATCGGTTACTGCAATTAATACCGCATTGGCCGC	1282
396	GlyArgHisGlyAspAspLeuArgAsn	388
1281	CTATGACGGAGATAATTTATTAGCAGAATATCAGCGGGGA	1232
387	::: :::::: GluLeuGlnThrThrAla	382
1231	AAAAGTTTAGAGAGTTATGCCGAACGCTTTA	1182
381	GlnThrLysLeuGly	377
1181	ACTGTT	1132
376	lnArgSerLysSerGluAlaGluAlaLeuTyr	366
1131	GTTGCAGCAGGTTTATCTTCAACTGGGCCTGTGGCTGCT	1082
1081 366	TGTTGGTAATATTACCAAAGCCGTTTCTTCTTACATTTTAGCCC ::: ::: .:: .LeuGlySerIleIleAlaGluValArgThrGlnTyrGluGluIleAlaG	1038 350
349		34
1037	GCTTCAACAGCTAAAAAAGTGGGTGCGGGTTTTGAATTGGCAAACCAAGT	988
345	GlnSerHisAlaSerAspThrSerValValLeuSerMetAsp	329
987	ATTATCGGGCGCAACAGCTGCACTTGTACTTGCAGATAA	944
329	 	317
943	\ \AGCTGGCCTTGGTTTAGATGTTATCTCAGG	894
317	:::::: LysValGluLeuGlnAlaLysValAspSerLeuThrAspGluValSerPh	301
893	SACTTTAGGAGACAAACT	844
300	:	292
843	SAGCAAATTAGTCAATTTGGTTC	794
291	::: ::: uPheValGlyLeuLys	286
793	ΉT	748
286	LysLysTyrGluAspGluIleAsnLysArgThrAlaAlaGluAsnGl	270
747	GCCTTACAGAATAACAGCAACCA	703
269	lnAspLeuValGl	253
702		668
667 253	CATTGTACAAAATGCAAATAAAGCCAAAACTGTATTATCTGGCATTCAAT	618 236
236	GlnGlnThrThrGlySerGlyProSerSerLeuGluProCysPhe	220
617	AAAACTAAAGCAGGCCAAGCATTAGGTTCTGCC	580
μ,	:::::::::	205
579	CTGAGCGTGGCATTGTGTTATCCGCTCCACAAATTGATAAAT	530
529 205	AACAGCTCAAACCAGTTTAGGCACGATTCAAACCGCTATTGGCTTAA ::::::::::::: ::: ::: sThrLeuAsnAsnLysPheAlaSerPheIleAspLysValArgPheLeuG	483 188
188	GlnValLy	178

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SwissProt_39:K22E_HUMAN
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ID K22E_HUMAN STAN

STANDARD;

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SWISS-PROT entry is copyright.

It is

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collaboration

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P35908;
01-JUN-1994
01-JUN-1994
01-OCT-2000
                                                                                                                                                                                                                         Yang J. M., Lee S., Bang H.-D., Kim W.-S., Lee E.-S., Steinert P.M.

"A novel threonine-to-proline mutation at the end of 2B rod domain
the keratin 2e chain in ichthyosis bullosa of Siemens.";

J. Invest. Dermatol. 109:116-118(1997).

-i- FUNCTION: PROBABLY CONTRIBUTES TO TERMINAL CORNIFICATION.

-i- SUBUNIT: HETEROTETRANER OF TWO TYPE I AND TWO TYPE II KERATINS.

-i- TISSUE SPECIFICITY: IN THE SUPRABSAL LAYERS OF EPIDERMAL
TISSUES FROM MOST BODY SITES, EXCEPT IN FORESKIN, IN SOUAMOUS
DETAPLASTAS AND CARCINOMAS.
                                                                                                                                                                                                                                                                                                                                                                                                                     Rothnagel J.A., Traupe H., Wojcik S., Huber M., Pittelkow M.R., Saeki H., Ishibashi Y., Roop D.! "Mutations in the rod domain of keratin 2e in pubullosa of Siemens.";
Nat. Genet. 7:485-490(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kremer H., Zeeuwen P., McLean W.H.I., May
van de Kerkhof P.C.M., Ropers H.-H., Ste
"Ichthyosis bullosa of Siemens is caused
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A., AND VARIANTS IBS TYR-192 AND LYS-4 Smith F.J.D., Maingi C., Covello S.P., Higgins C., Sci Lane E.B., Uitto J., Leigh I.M., McLean W.H.I.; "Genomic organization and fine mapping of the keratin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Collin C., Moll R., Kubicka S., Ouhayoun J.-P., Franke W.W.; "Characterization of human cytokeratin 2, an epidermal cytoskeletal protein synthesized late during differentiation."; Exp. Cell Res. 202:132-141(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens (Human)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
01-CCT-2000 (Rel. 40, Last annotation updat
KERATIN, TYPE II CYTOSKELETAL 2 EPIDERMAL (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          McLean W.H.I., Morley S.M., Lane E.B., Eady R.A., Gri
Paige D.G., Harper J.I., Higgins C., Leigh I.M.;
"Ichthyosis bullosa of Siemens -- a disease involving
                               (NEUTRAL TO BASIC: 56-70 KDA) [K1 TO K8].
-!- SIMILARITY: BELONGS TO THE INTERMEDIATE FILAMENT FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VARIANTS IBS ASP-493 AND LYS-493.
MEDLINE=95038833; PubMed=7524919;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   K2e V1 domain polymorphism and novel mutations
                                                                                                                                                                                                              -!- DEVELOPMENTAL STAGE: SYNTHESIZED DURING MATURATION OF EPIDERMAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=94358461; PubMed=8077693;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VARIANTS IBS PRO-187 AND LYS-493.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Invest. Dermatol. 111:817-821(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Invest. Dermatol. 103:277-281(1994).
                                                              DISEASE: DEFECTS IN KERATIN 2E ARE ASSOCIATED WITH ICHTHYOSIS BULLOSA OF SIEMENS, A RARE AUTOSOMAL DOMINANT DISORDER DISPLAYING A TYPE OF EPIDERMOLYTIC HYPERKERATOSIS, CHARACTERIZED BY EXTENSIVE BLISTERING FROM BIRTH. HYPERKERATOSES AND SHEDDING OF THE OUTER LAYERS OF THE EPIDERMIS (MOLTING) ARE OBSERVED IN LATER WEEKS.
MISCELLANEOUS: THERE ARE TWO TYPES OF CYTOSKELETAL AND MICROFIBRILLAR KERATIN: I (ACIDIC; 40-55 KDA) [K9 TO K20] AND II
                                                                                                                                                                                            KERATINOCYTES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dermatol. 103:286-289(1994).
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Primates;
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Catarrhini;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       , Mariman E.C.
Steijlen P.M.
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ns C., Schmidt
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alignment_block:
US-09-306-689-12 x K22E_HUMAN
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Percent Similarity:
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INTERPRO; IPR003054; -.
PFAM; PF00038; filament; 1.
PRINTS; PR01276; TYPE2KERATIN.
PROSITE; PS00226; IF; 1.
Intermediate filament; Coiled coil; Heptad repeat pattern; Keratin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long, as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                        158 GCCTGCGTCCGGGTGGATCTCAGCAT...TGGAGCTACGGCCTGCGCCCT 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VARIANT
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MIM; 600194;
127 yArgPheGlyGlyPheGlyGlyProGlyGlyValGlyGlyLeuGlyGlyP 144
                                   255 CCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCAAGATTGGA 304
                                                                                                             205 GGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAG 254
                                                                                                                                                                                                                                                                 108 TTGGAGCTACGGCCTGCCCCTGGCAGCGGTAGCCAAGATTGGAGCTACG 157
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; M99061; AAC83410.1; -
                                                                                                                                                                                                                               82
                                                                                                                                                                                                                                                                                                    68 GlyThrLysSerIleSerIleSerValAlaGlyGlyGlyGly..... 81
                                                                                                                                                                                                                                                                                                                                             58
                                                                                                                                                                                                                                                                                                                          GGTTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCA 107
                                                                                                                                                                                                                             ....GlyPheGlyAlaAlaGlyGlyPheGlyGlyArgGlyGlyGlyPheG
                                                                        GlySerGlyPheSerGlyGlyGlyPheGlyGlyGlyPheGlyGlyGl 127
                                                                                                                                                   ly.........GlyGlySerGlyPheGlyGlyGlySerGlyPheGlyGly 110
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           645 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           65865 MW;
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Gaps: 30
Percent Identity: 20.927
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COIL 1A.
LINKER 1.
COIL 1B.
LINKER 12.
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/FTId=VAR_009187.

E -> D (IN IBS).

/FTId=VAR_003866.
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/FTId=VAR_003867.
EE025A173E33409A CRC64;
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E -> K (IN IBS).
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N -> Y (IN IBS).
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1015	LOVED VOLLE ALBERTA VOLLE VOLLE VALUE VALU	1166
368	::: ::: ::: 	Űi.
1165	TGTGGCTGCTTTAATTGCTTCTACTGTTTCTCTTGCGATTAGCCCCATTAG	1116
1115 354	TCTTACATTTTAGCCCAACGTGTTGCAGCAGGTTTATCTTCAACTGGGCC::: ::: :: ::: ::: :: :::	1066 338
337	GlnIleHisGlnSerValThrAspThr	N
328	.VaiLeuTyrAspAlaGluIleServaiLeuTyrAspAlaGluIleSer	321 1016
0	ACTTGCAGATAAAAATGCTTCAACAGCTAAAAAAAGTGGGTGCGG	6
320	AsnGlnGluIleGluPheLeuLys	313
965	GCCTTGGTTTAGATGTTATCTCAGGGCTATTATCGGGCGCAACAGCTGC	916
312	::: LysValAspLeuLeu	298
915	TCAAAAATATCGGTGGACTTGATAAAGCT	866
865 298	AATTAGTCAATTTGGTTCAAAACTACAAAATATCAAAAGGCT :::::: ::: gThralaalaGluasnaspPheValThrLeuLysLysAspValAspAsna	825 281
œ	GluAspTyrLysLysLysTyrGluAspGluIleAsnLysAr	267
2	AAAATATTGCTAATTCAGTAAAAACACTTGACGAATTTGGTGAGCA	775
266	uAsnAsnMetGlnAspLeu	259
774	AGCTAACAAATTCATTA	731
258	gTyrLeuAspGlyLeuThrAlaGluArgThrSerGlnAsnSer	244
730	TGGCTGGAATGGATTTAGATGAGGCCTTACAGAATAACAGCAACC	681
244	ProIleAsnLeuGluProIlePheGlnGlyTyrIleAspSerLeuLysAr	228
680	AGCCAAAACTGTATTATCTGGCATTCAATCTATTTTAGGCTC	637
227	E	211
636	TTAGGTTCTGCCGAAAGCATTGTACAAAATGCAAAT	599
211	IleAspLysValArgPheLeuGluGlnGlnAsnGlnV	199
598	TTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAG	549
198	PheAlaSerPhe	195
548	GGCACGAT	499
194	rgGluGlnIleLysT	180
498	NAGAACGCAATAATATTGCAACAGCTCAAACCAGT	449
179	uIleGlnAsn	176
448	ACAAGGTAATGGTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGA	399
176	<pre>valAsnGlnSerLeuLeuGlnProLeuAsnValLysValAspProGl</pre>	161
398	AAAAAAAATTATCCTCTATATTCCCCAAAATTACCAATATGATACTGA	349
160	GCTACGGCCTGCGGCTGGATCTAGCTTCCCAAAACTGGG 	144
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Seq_documentation_block:
ID KICI_HUMAN STANDS
AC p35527; 014665;
DT 01-JUN-1994 (Rel. 29,
DT 01-JUN-1994 (Rel. 29,
DT 01-JUN-1994 (Rel. 29,
DT 01-JUN-1994 (Rel. 29,
DT 01-JUN-1998 (Rel. 36,
DE KERATIN, TYPE I CYTOS
GN KRT9.
OS HOMO SAPIENS (Human)
OC EUKARYOTA; METAZOA; (OC MAMMALIA; EUTHERIA; I
RN [1]
RN SEQUENCE FROM N.A., J
RC TISSUE=FOOT SOLE TISS;
RX MEDLINE=94131202; Pul
RA HOAL PART SPECIFICITY OF gene
RI Differentiation 55:5
RN [2]
RA ROSEN E.M., METOMSKY
RT "HUMAN PLACENTA CONT
RA ROSEN E.M., METOMSKY
RT "HUMAN PLACENTA CONT
RA ROSENE E.M., METOMSKY
RT "HUMAN PLACENTA CONT
RA ROSENE T.M., METOMSKY
RT "HUMAN PLACENTA GENE
RN [3]
RR RES A., Hennies H.-
RA RESTANTS EPPK LYS-16
RY WARIANTS EPPK LYS-16
RY WARIANTS EPPK TRP-16
RY PALMS AND SOLES
CC -1- SUBUNIT: HETERO'
CC MATURE PALMS AND SOLES
CC -1- SUBUNIT: HETERO'
CC MATURE PALMS AND SOLES
CC -1- SUBUNIT: HETERO'
CC MATURE PALMS AND SOLES
CC -1- SUBUNIT: HETERO'
CC MISCELLANEOUS: '
CC MATURE PALMS AND SOLES
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                                                                                                                                                                                                                                                                                         PROGRAM OF THE FORMATION OF THESE TISSUE.

-!- SUBUNIT: HETEROTETRAMER OF TWO TYPE I AND TWO TYPE II KERATINS.
-!- TISSUE SPECIFICITY: EXPRESSED IN THE TERMINALLY DIFFERENTIATED EPIDERMIS OF PALMS AND SOLES.
-!- DISEASE: DEFECTS IN KRT9 ARE A CAUSE OF EPIDERMOLYTIC PALMOPLANTAR KERATODERMA (EPPK), AN AUTOSOMAL DOMINANT DISEASE CHARACTERIZED BY DIFFUSE THICKENING OF THE EPIDERMIS ON THE ENVIRE SURFACE OF PALMS AND SOLES SHARPLY BORDERED WITH EXTHEMATOUS MARGINS.
-!- MISCELLANBOUS: THERE ARE TWO TYPES OF CYTOSKELETAL AND MICROFIBRILLAR KERATIN: I (ACIDIC; 40-55 KDA) [K9 TO K20] AND II (NEUTRAL TO BASIC; 56-70 KDA) [K1 TO KB]
                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            J. Invest. Dermatol. 104:430-433(1995).
-i- FUNCTION: MAY SERVE AN IMPORTANT SPECIAL FUNCTION EITHER IN MATURE PALMAR AND PLANTAR SKIN TISSUE OR IN THE MORPHOGENIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=94214498; PubMed=7512862;
Reis A., Hennies H.-C., Langbein L., Digweed M., Mischke
Dreschler M., Schroek E., Royer-Pokora B., Franke W.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Langbein L., Heid H.W., Moll I., Franke W.W.;
"Molecular characterization of the body site-specific
cytokeratin 9: cDNA cloning, amino acid sequence, and
specificity of gene expression.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
KERATIN, TYPE I CYTOSKELETAL 9 (CYTOKERATIN 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Mutations in the 1A domain of keratin 9 in epidermolytic palmoplantar keratoderma."; J. Invest. Dermatol. 104:430-433(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=90267446; PubMed=2140676; Rosen E.M., Meromsky L., Romero R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A., AND PARTIAL SEQUENCE TISSUE-FOOT SOLE TISSUE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VARIANTS EPPK TRP-162 AND SER-167.
MEDLINE-95164983; PubMed-7532199;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=94131202; PubMed=7507869;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rothnagel J.A., Wojcik S., Liefer K.M., Dominey A.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VARIANTS EPPK LYS-160; GLN-162 AND TRP-162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 449-465.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Keratin 9 gene mutations in epidermolytic palmoplantar keratoderma
                                                                                                                                                                                                                                    SIMILARITY: BELONGS TO THE INTERMEDIATE CAUTION: WAS ORIGINALLY (REF.2) THOUGHT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerGlyGlyGlyTyrGlySerGlyGlyGlyGlySer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 erGlyGlyGlyLysHisSerSerGlyGlyGlySerArgGlyGlySerSer
                                                                                                                                                                                                          PLACENTAL SCATTER PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SwissProt_39:K1CI_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genet. 6:174-179(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E.M., Meromsky L., Romero R., Setter E., Goldberg placenta contains an epithelial scatter protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biophys. Res. Commun. 168:1082-1088(1990).
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Eutheria; Primates; Catarrhini; Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55:57-72(1993).
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                                                                                                                                                                                                                                        BE A 60 KDA CHAIN OF
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Quality:
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EMBL; Z29074; CAA82315.1; -.
EMBL; S69510; AAC60619.1; -.
PIR; B35494; B35494.
HSSP; P02876; 2WGC.
MIN; 144200; -.
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SEQUENCE
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313 CTGCGTCCGGGT...GGATCTAGCTTCCCAAAAACTGGGGCAAAAAAAAT 359
                                            108 lyGlyPheGlyGlyGlyPheGlyGlySer
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                                                                                                                                                                                             166
                                                                                                                                                                                                                                                 116 ACGGCCTGCGCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGT 165
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INTERPRO; IPRO02957; -.
PFAM; PF00038; filament; 1.
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or send an email to license@isb-sib.ch).
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                                                                                                                                                             SerGlyGlyPheSerAlaSerSerLeuGlyGlyPheGlyGlyGl 92
                                                                                                                                                                                       CCGGGTGGATCT...CAGCATTGGAGCTACGGCCTGCGCCCCTGGCAGCGG
                                                                                                                                                                                                                      rgGly......GlyGlyGlySerPheGlyTyrSerTyrGlyGlyGly 75
                                                           GGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGC
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                                                                                                    ySerArgGlyPheGly...GlyAlaSerGlyGlyGlyTyrSerSerSerG 108
                                                                                                                                 TTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATT 262
                                                                                                                                                                                                                                                                                rSerSerGlyTyrGly......GlyGlySerSerArgValCysGlyA 62
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COIL 1B.
LINKER 12.
COIL 2.
POLY GLY.
N -> K (IN EPPK).
/FTId-VAR_003822.
F -> W (IN EPPK).
/FTId-VAR_03823.
R -> W (IN EPPK).
/FTId-VAR_03824.
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/FTId=VAR_003825.
T -> SR (IN CAA82315).
898C3825D4B5ED94 CRC64;
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1209 295	GCCGGTATTGCCGATAAATTTAATCATGCAAAAAGTTTA ::: ::::::: CluLeuMetAlaLeuLvsLvsAsnHisLvsGluGluMet	1160 279
279	MetGluLysSerAspLeuGluMetGlnTyrGl	268
1159	TGGGCCTGTGGCTTTAATTGCTTCTACTGTTTCTCTTGCGATTAGCC	1110
267		267
1109	GTTTCTTCTTACATTTTAGCCCAACGTGTTGCAGCAGGTTTATCTTCA	1060
267	spAlaAspIleAsnGlyLeuArgGlnValLeuAspAsnLeuThr	253
1059	GTGCGGGTTTTGAATTGGCAAACCAAGTTGTTGGTAATATTACCAAAGCC	1010
253	IleLysPheGluMetGluGlnAsnLeuArgGlnGlyValA	240
1009	AGCTGCACTTGTACTTGCAGATAAAAATGCTTCAACAGCTAAAAAAGTGG	960
239	AsnThrArgMetThrLeuAspAspPheArg	230
959	AAAGCTGGCCTTGGTTTAGATGTTATCTCAGGGCTATTATCGGGCGCAAC	910
229	ThrValGlyAsnAsnLysThrLeuLeuAspIleAsp	218
909	AAGGCTTAGGGACTTTAGGAGACAAACTCAAAAATATCGGTGGACTTGAT	860
217	pAspLeuLysAspGlnIleValAspLeu	208
859	CGAATTTGGTGAGCAAATTAGTCAATTTTGGTTCAAAACTACAAAATATCA	810
208	:::::: ::: AlaIleGlnLysAsnT	195
809	CTAACAAATTCATTAATTGAAAATATTGCTAATTCAGTAAAAAACACTTGA	760
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759	CCTTACAGAATAACAGCAACCAACATGCTCTTGCT	710
183		179
709	CATTCAATCTATTTTAGGCTCAGTATTGGCTGGAATGGATTTAGATG	660
178	AlaAsnAsn	176
659	GCCGAAAGCATTGTACAAAATGCAAATAA	610
175	yrLeuAspLysVal	166
609	AAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAGCATTAGGTT	560
166	H	166
559	TCAAACCGCTATTGGCTTAACTGAGCGTGGCATTGTGTTATCC	510
165	GlnGluLeuAsnSerArgLeuAlaSer	157
509	AGAGAAGAACGCAATAA	460
156	 :::::: lyAspGlyGlyIleLeuThrAlaAsno	143
459	GTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGATTGAGGTAC	410
	::: :::	136
409	TATCCTCTATATTCCCCCAAAATTACCAATATGATACTGAACAAGGTAA	360
135	PheGlyGlyGlyTyrGlySerGlyPheGlyGlyLeuGlyGly	122

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1709
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                                                           GGTGGCTCTAGCCAGCATTGG.....
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GlyGlySerGlyGlyAsnTyrGlyGlyGlySerGlySerGlyGlyGlySe
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                                                                                                                            lyGlyGlySerGlyGlyGlyHisSerGlyGlySerGlyGlyHisSer
                                                                                                                                                                                       GCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCG
                                                                                                                                                                                                                                                                                                                    AGATTGGAGCTACGGCCTGCGTCCGGGTGGATCTCAGCATTGGAGCTACG
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seq_documentation_block:
ID GUNB_CELFI STAN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Meinke A., Gilkes N.R., Kilburn D.G., Miller R.C. Jr., Warren R.A.J.;

"Multiple domains in endoglucanase B (CenB) from Cellulomonas fimi:
functions and relatedness to domains in other polypeptides.";

J. Bacteriol. 173:7126-7135(1991).

-!- FUNCTION: THE BIOLOGICAL CONVERSION OF CELLUIOSE TO GLUCOSE
GENERALLY ROUIRES THREE TYPES OF HYDROLYTIC ENZYMES:

(1) ENDOGLUCANASES WHICH CUT INTERNAL BETA-1,4-GLUCOSIDIC BONDS;
(2) ENCOELLOBIOHYDROLASES THAT CUT THE DISSACCHARIDE CELLOBIOSE
FROM THE NONREDUCING END OF THE CELLUDIOSE AND OTHER

(3) BETA-1,4-GLUCOSIDASES WHICH HYDROLYZE THE CELLUDIOSE AND OTHER
SHORT CELLO-OLIGOSACCHARIDES TO GLUCOSE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=91100298; PubMed=1987122;
MEDLINE=91100298; PubMed=1987122;
MEDLINE=91100298; PubMed=1987122;
PFAM; PF00553; CBD_2; 1.
PFAM; PF000759; Glyco_hydro_9; 1.
PFAM; PF00041; fn3; 3.
PROSITE; PS00561; CBD_BACTERIAL;
PROSITE; PS00592; GLYCOSYL_HYDRO
PROSITE; PS00698; GLYCOSYL_HYDRO
                                                                                                                     INTERPRO;
INTERPRO;
                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- MISCELLANEOUS: THE LINKER REGION (ALSO TERMED "HINGE") MAY BE A POTENTIAL SITE FOR PROTEOLYSIS.
-!- MISCELLANEOUS: MAY CONTAIN A SECOND CBD IN THE CATALYTIC DOMAIN.
-!- SIMILARITY: CONTAINS 3 FIBRONECTIN TYPE III-LIKE DOMAINS.
-!- SIMILARITY: BELONGS TO CELLULASE FAMILY E (FAMILY 9 OF GLYCOSYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CENB
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01-MAY-1992 (Rel. 22, Last sequence update)
01-CCT-1996 (Rel. 34, Last annotation update)
ENDOGLUCANASE B PRECURSOR (EC 3.2.1.4) (ENDO-1,4-BETA-GLUCANASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      582 lyGlySerHisGlyGlyGlySer 589
                                                                                                                                                                                 PIR; A39199; A39199..
HSSP; P26221; 3TF4.
                                                                                                                                                                                                                                                         entities requires a license agreement.(See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -!- CATALYTIC ACTIVITY: ENDOHYDROLYSIS LINKAGES IN CELLULOSE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-92041609; PubMed-1938913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Unusual sequence organization in from Cellulomonas fimi.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Warren R.A.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria; Firmicutes; Actinobacteria; Actinobacteridae; Actinomycetales; Micrococcineae; Cellulomonadaceae; Cellulomonas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cellulomonas fimi.
                                                                                                                                                              INTERPRO;
                                                                                                                                                                                                                      EMBL; M64644; AAA23086.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . Bacteriol. 173:308-314(1991).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rGlyGlyGlyTyrGly.....GlyGlySerGlySerArgGlyGlySerG
                                                                                                                                                                                                                                                                                                                                                                                                                        HYDROLASES)
PS00561; CBD_BACTERIAL; 1.
PS00592; GLYCOSYL_HYDROL_F9_1;
PS00698; GLYCOSYL_HYDROL_F9_2;
                                                                                                                       IPR001777; -. IPR001919; -.
                                                                                                                                                              IPR001701; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kilburn D.G., Miller R.C. Jr.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OF 1,4-BETA-D-GLUCOSIDIC
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CAATATGATACT. :::::: AlaSerPheProThrP	340AAAACTGGGGCAAAAAAATTATCCTCT ::::::! 460 AlaThrAspTyrAsnAlaGlyPheThrSerAlaLeuAlaA	338 CA	288 CGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGTG : :::	256 CAGCATTGGAGCTACGGCCT ::: ::: 410 HishisArgThrAlaHisGlySerTrpLeuAspSerIl	206 GCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCG ::: 393 rgSerSerTyrValValGlyPheGlyAlaAsnPro	156 CGGCCTGCGTCCGGGTGGATCTCAGCATTGGAGCTACG : ::: : ::: 379 eGlyValargGlnIleAsnTyrAlaLeuG	142CAAGATTGG	113 GCTACGGCCTGCGCCCTGGCAGCGGTAGC ::: :::::::::::::::::	63 TCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTA : ::: :::: 331 yGlnLysValProTyrSerProGlyGlyGlnA	13 ATAGATČGATCTCAGCATTGGAGCTACGGCCTGCGCCCC ::: :::::::: 315 ValaspAspAlaAsnArgTrpLeuAspTyrTrpThrVa	Align seg 1/1 to: GUNB_CELFI from: 1 to: 10	alignment_block: US-09-306-689-12 x GUNB_CELFI	alignment_scores: Quality: 161.50 Ratio: 0.449 Percent Similarity: 43.426 Percent Identity	### Cellulose degradation; Hydrolase; Glycosidas FT SIGNAL 3
ATACTC	AATTATCCTCTATATTCCCCA 377 : :: :: :: :: :: PAlaLeuAlaArgLeuValGl 476	 AspTyrVa	TCC uVa	m 0	TGCGTC ::: laAsnP	GAGCTAC :::: rAlaLeu	gLysAlaA	SerPh	GTGGCTCT ::: lyGlyGln	CTGCGC TrpThr	to:		Leng Ga Identi	Glycosidase; Repeat; Signal. SGIUCANASE B. LYTIC. RONECTIN TYPE-III 1. RONECTIN TYPE-III 3. RONECTIN TYPE-III 3. RER ("HINGE") (PRO-THR BOX). RER ("HINGE") (PRO-THR BOX). RER ("HINGE") (PRO-THR BOX). RER ("HINGE") (PRO-THR BOX). SER ("HINGE") (PRO-THR BOX).

1193	TCTCTTGCGATTAGCCCATTAGCATTTGCCGGTATTGCCGATAAATTTAA	1144
1143 774	CAGGITTATCTTCAACTGGGCCTGTGGCTGCTTAATTGCTTCTACTGTT :::::::::::: erAlaValThrSerThrGlyAlaThrLeuAlaTrpAlaProSerThrGly	758
58	ThrThrGlyGluThrGluProProThrThrProGlyThrProValAl	741
1093		1078
1077 741	ATATTACCAAAGCCGTTTCTTCTTA(1036 725
724	::: valvalLysAlaLy	\vdash
0	TGCTTCAACAGCTAAAAAAGTGGGTGCGGGTTTTGAATTGGCAAAC	œ
985 711	CTCAGGGCTATTATCGGGCGCAACAGCTGCACTTGTACTTGCAGATAAAA :::::::: ::: ::ThrThrThrAlaAlaAlaTyrIleLeuArgAspLeuT	936 699
698	T.	686
935	AAAATATCGGTGGACTTG	886
685	::: :GlyValAl	672
885	\GGGACTTTAGGAGACA	836
835 672	TGCTAATTCAGTAAAAACACTTGACGAATTTTGGTGAGCAAATTAGTCAAT :::::: AlaThrGlyValThrThrValGlyAlaSerLeuSerTrpA	658
ŭ	ThrGlyThrThrThrAspThrThrProProThrThrProGlyThrProVa	
785	ACAAATTCATTAATTGAAAATAT	763
641	erAlaIleThrLeuTyrAspGlySerThrLeuValTrpGlyLysGluPro	625
762	GGCTTGGAGCTA	751
750 625	02 AGATGAGGCCTTACAGAATAACAGCAACCAACCATGCTCTTGCTAAAGCT. 7 :::::: ::::: ::::	702 608
	rgArgGluIleGlnPheArgLeuThrGlyProAlaGlyTrpAsn.ProAl	
	TTTAGGCTCAGTATTGGCTGGAATGGATTT	
592	HARATGCARATAMAGCCARARCIG ATTAICTGGCATTCARTCTAT:: : ::: ::: uLeuSerCysValGlyGlnAspIleHisProGlyGlyGlnSerGlnHisA	575
, .	ornoerery hysory varser Arabity by yill bedougly variet	ن ر
1 2	CAGAAAACTAAAGCAGGCCAAGCATTAGGTTCTGCCGAAAGCATTGTACA	577
559	::::: heAlaAlaSerAspValThrLeuSerAlaAsnTyrSerGluCysGlyAla	543
576	ACTGAGCGT	527
526 543	AACCAGTTTAGGCACGATTCAAACCGCTATTGGCT aArgSerLeuLysAsnAlaLysValArgTyrTrpPheThrThrAspGlyP	492 526
526	ThrPheThrGluValLysAlaMetIleArgAsnGlnSerAlaPheProAl	510
491	GAACGCAATAATATTGCAACAGCTC	442
441 509	ATGGTTTACAGGATTTAGTCAAAGCGGCCGAAGAG ::	407 493

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seq_documentation_block:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -!- FUNCTION: PROBABLY INVOLVED IN CONNECTIONS OF MAJOR CYTOSKELETAL STRUCTURES TO THE PLASMA MEMBRANE. HIGH MOLECULAR WEIGHT CYTOSKELETAL PROTEIN CONCENTRATED AT REGIONS OF CELL-SUBSTRATUM CONTACT AND, IN LYMPHOCYTES, AT CELL-CELL CONTACTS.
-!- SUBUNIT: BINDS WITH HIGH AFFINITY TO VINCULIN AND WITH LOW AFFINITY TO INTEGRINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIINE=91015390; PubMed=2120593;
Rees D.J.G., Ades S.A., Singer S.J., Hynes R.O.;
"Sequence and domain structure of talin.";
Nature 347:685-689(1990).
-i- FUNCTION: PROBABLY INVOLVED IN CONNECTIONS O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAY-1992 (Rel. 22, Created)
01-MAY-1992 (Rel. 22, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
                                                 PROSITE; PS00660; BAND_41_1; 1.
PROSITE; PS00661; BAND_41_2; 1.
PROSITE; PS50057; BAND_41_3; 1.
Structural protein; Cytoskeleton;
DOMAIN 173 332
BAND
                                                                                                                                                                                                                             PIR; S11661; S11661.
HSSP; P04002: 1WFA
                                                                                                                                                                                                                                                                                                   entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -!- PTM: PHOSPHORYLATED.
-!- SIMILARITY: CONTAINS A DOMAIN FOUND IN BAND 4.1, EZRIN, MOESIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TLN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TALI_MOUSE
                                                                                                                                                                                                                                                                                                                                    use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- SIMILARITY: IN THE C-TERMINUS TO YEAST SLA2 AND C.ELEGANS ZK$70.3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-BALB/C; TISSUE-FIBROBLAST;
 SEQUENCE
                                                                                                                                                                                                                                                                    EMBL; X56123; CAA39588.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
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                                                                                                                                            PFAM; PF01608;
                                                                                                                                                           PFAM; PF00373;
                                                                                                                                                                             INTERPRO; IPRO00299; -.
                                                                                                                                                                                                                MGD; MGI:1099832; TLN.
                                   /ARIANT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCGCCCTGGCAGCGGTAGCCAAGATTGGAGCTAC 2064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCC 2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaThrTrpSerGlnThrGlyThrThrValThrAlaThrGlyLeuSerTr 1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RADIXIN, AND TALIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SwissProt_39:TALI_MOUSE
1105 11
2180 21
2541 AA;
                                                                                                                                                            Band_41; 1.
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                                                                                                                                          I_LWEQ; 1.
                                    1105
                  2180
 269832 MW;
                    BAND
L ->
K ->
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 14EF75ABE9FC2CBB CRC64;
                                                                      Phosphorylation
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                                                                                                                                                                                                                                                                                                                                        Usage
                                                                                                                                                                                                                                                                                                                                            and
                                                                                                                                                                                                                                                                                                                                            for
                                                                                                                                                                                                                                                                                                                                            commercial
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alignment_block:

Percent Similarity:

alignment_scores:

Quality: Ratio:

159.00 0.408 43.237

Percent Identity:

902 39 20.067

Align seg 1/1 to: TALI_MOUSE from: 1 to: 2541 US-09-306-689-12 x TALI_MOUSE 969 yValArgGlySerGlnAlaGlnProAspSerProSerAlaGlnLeuAlaL 986 582 AACTAAAGCAGGCCAAGCA..... 532 GAGCGTGGCATTGTGTTATCCGCTCCACAAATTGATAAATTGCTACAGAA 581 936 lnHisAlaAlaSerAlaProLysAlaSerAlaGlyProGlnProLeuLeu 952 491 AAACCAGTTTAGGCACGATTCAAACCGCTATTGGC......TTAACT 531 471 C.....AATAATATTGCAACAGCTC 490 430 GCGGCCGAAGAGTTGGGGATTGAG........GTACAAAGAGAAGAAGG 470 279 CCCTGGCAGCGGTA..... 953 ValGlnSerCysLysAlaValAlaGluGlnIleProLeuLeuValGlnGl 969 919 sAlaAlaLysGlnAlaAlaAlaSerAlaThrGlnThrIleAlaAlaAlaG 380 ATTACCAATATGATACTGAACAAGGTAATGGTTTACAGGATTTAGTCAAA 429 869 sMetValGluAlaAlaLysGlyAlaAlaAlaHisProAspSerGluGluG 886 853 SerArgLysLeuLeuSerAlaAlaLysIleLeuAlaAspAlaThrAlaLy 869 836 euValAsnAlaIleLysAlaAspAlaGluGlyGluSerAspLeuGluAsn 852 819 aGlyGluMetValArgGlnAlaArgIleLeuAlaGlnAlaThrSerAspL 836 239 803 AspThrIleLeuThrValThrGluAsnIlePheSerSerMetGlyAspAl 819 || || || || || || || 802 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 || 10 190 TACGGCCTGCGCCAGCGGTTCTC.....A 218 736 euValGluAlaGlyArgLeuValAlaLysAlaValGluGlyCysValSer 752 129 TGGCAGCGGTAGCCAAGATTGGAGCTACGGCC......TGCGTCCGG 169 719 sThrLysValValAlaProThrIleSerSerProValCysGlnGluGlnL 736 706 AlaThrGlnCysAlaLeuSerThrSerGlnLeuVal......AlaCy 719 601 ..TTAGGTTCTGCCGAAAGCATTGTACAAAATGCAAATAAA..... 639 293 ...GCCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGATCTAGCTTCCCA 339 238 769 aAlaAlaThrAlaValThrGlnAlaLeuAsnGluLeuLeuGlnHisValL 786 753 AlaSerGlnAlaAlaThrGluAspGlyGlnLeuLeuArgGlyValGlyAl 769 170 GTGGATCTCAGC.....ATTGGAGC 189 85 CGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC.....GCCC 128 AGATTGGAGCTACGGCCTGC..... 238GTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCG 278 936 292

1386	CTGCAGCCGATTTAACATTTGAAAAAGTTAAA	1355
1354 1223	ATTAATACCGCATTGGCCGCTATTGCTGGTGGTGTGTCTGCTG :::::::: ::::: nArgAspValAspAsnAlaLeuArgAlaValGlyAspAlaSerLysArgL	1312 1206
1206	LysAlaValThrGlnAlaLeuAsnArgCysValSerCysLeuProGlyGl	1190
1311		1297
1296 1189	ACGGAGATAATTTATTAGCAGAATATCAGCGGGGAACAGGGACTATTGAT	1247 1176
1246 1176	TGCAAAAAGTTTAGAGAGTTATGCCGAACGCTTTAAAAAATTAGGCTATG ::: ::: ::: ::: :::	1197 1161
1196 1161	CTTGCGATTAGCCCATTAGCATTTGCCGGTATTGCCGATAAATTTAATCA	1147 1145
1146 1144		1100
1099 1128	ATTTTAGCCCAACGTGTTGCAGCAGGTT ::: ::: nGlyAsnGluAsnTyrAlaGlyIleAlaAlaArgAspValAlaGlyGlyL	1072
1111	ACCAAAGCUGITICTICTIAG	1095
1094		208
1050	AAAAAGTGGGTGCGGGTTTTGAATTGGCAAACCAAGTTGTTGGTAATAT	1001
1079		1079
1000	GGGCGCAACAGCTGCACTTGTACTTGCAGATAAAAATGCTTCAACAGCTA	951
1079		1079
950	GGA	901
900 1079	AAAATATCAAAGGCTTAGGGACTTAGGAGACAAACTCAAAAATATCGGT	.1065
0		1064
л .	AACACTTGACGAATTTGCTGAGCAAATTAGTTCAATTTGCTTTCAAAACTTA	801
800	GCTTGGAGCTAACAATTCATTAATTGAAAATATTGCTAATTCAGTAAA	751 1049
750 1048	L TAGATGAGGCCTTACAGAATAACAGCAACCAACATGCTCTTGCTAAAGCT	701 1034
700 1034		1019
1019)GCCAAAACTGTATTATCTGGCATTCAA	640 1003
1002	:::::::::::: ::::: :::::: euIleAlaAlaSerGlnSerPheLeuGlnProGlyGlyLysMetValAla	986

1505 uCys 1506
seq_name: SwissProt_39:FLIC_SALON
seq_documentation_block: ID FLIC_SALON STANDARD; PRT; 507 AA.
DT 01-OCT-1996 (Rel. 34, Created) DT 01-OCT-1996 (Rel. 34, Last sequence update)
FLAGELLIN (PHASE-1-C FLAGEL
Salmonella oranienberg.
Bacteria; Proteobacte Salmonella.
STRAIN=ATCC 9239;
Masten B.J., Joys T.M.;
"Molecular analyses of
complex."; J. Bacteriol. 175:5359-5365(1993).
-!- MISCELLANEOUS: INDIV
BETWEEN THE PRODUCTION OF 2 ANTIGENIC FORMS OF FLAGELLA
-!- SIMILARITY: BELONGS TO THE BACTERIAL FLAGELLIN
between the Swiss Institute of Bioinformatics and t
modified and this statement is not removed. Usage b entities requires a license agreement (See http://www
or send an email to license@isb-sib.ch).
EMBL; Z15070; CAA78779.1;
INTE
PFAM,
PRINTS; PR00207; FLAGELLIN.
FT INIT MET 0 0 BY SIMILARITY. SQ SEQUENCE 507 AA; 53065 MW; 17A88B4BBA4A6125 CRC64;
: 157.50 Length: 50
Percent Similarity: 53.094 Percent Identity: 21.557
alignment_block: US-09-306-689-12 x FLIC_SALON
Align seg 1/1 to: FLIC_SALON from: 1 to: 507
469 CGCAATAATATTGCAACAGCTCAAACCAGTTTAGGCACGATTCAAACCGC 518 ::: :::::: 14 GlnAsnAsnLeuAsnLysSerGlnSerSerLeuSerSerAl 27
519 TATTGGCTTAACTGAGCGTGGCATTGTGTTATCCGCTCCACAAATTGATA 568
569 AATTGCTACAGAAAACTAAAGCAGGCCAAGCATTA

604	:	
	aserargasnalaasnaspG1y1	, -
71	CCAAAACTGTATTATCTGGCATTCAATCTATTTAGGCTCAG	682
683	TGGCTGGAATGGATTTAGATGAGGCCTTACAGAATAACAGCAACCA	732
88	hrgGluLeuSerValG	104
733 105	CATGCTCTTGCTAAAGCTGGCTTGGAGACTAACAAATTCATTAATTGAAAAA :::	782
793	E) H
121	AsnGlnThrGlnPheAsnGlyValLysValLeuS	138
809	TAGTCAATTTGGTTCAAAA	846
138	:tLysIleGlnValGlyAlaAsnAspGlyGluT	154
7	AAAATATCAAAGGCTTAGGG	870
155	leThrIleAspLeuGlnLysIleAspValLysSerLeuGlyLeuAspG	171
871	ACTTTAGGAGACA	883
171	suvarasuery rionyse inatatii vatery aspheunyssers	188
188	GCCTTGGT ::::: laValGlyAlaAsnLys	204
925	ATGTTATCTCAGGGCTATTATCGGGCGCAACAGCTGCACT	968
205	rArgValAspValAsnSerGlyAlaValValThrAspThr	221
	AATGCTTCAACAGCTAAAAAAGTGG	1009
21	alProAspLysValTyrValAsnAlaAlaAsı	238
1010	GTGCGGGTTTTGAATTGGCAAACCAAGTTGTTGGTAATATTACCAAAGCC	1059
Ō	TTTCTTCTTACATTTTAGCCCAACGTGTTGCAGCAGGTGTTATCTTATCTTAAC	1109
253	 aAlaGlyThrAspAspAl	62
1110	ATTGCTTCTACTGTTTCTCTTGCGATTAGCC	1159
262	IleLysGly	271
1160	TGCCGATAAATTTAATCATGCAAAAAGTTTA	1209
272	1GlyAspThrPheAsp	279
1210	GAGTTATGCCGAACGCTTTAAAAAATTAGGCTATGACGGAGATAATTT	1259
280	TyrLysGlyValSerPheThrIleAspThrLy	290
1260	CAGAATATCAGCGGGGAACAGGGACTATTGATGCATCGGTTACTG	1309
290	GlyThrValSerThrThrIleAsnG	305
<u> </u>	AATACCGCATTGGCCGCTATTGCTGGTGGTGTGTGTCTGCTGCA	1359
305	yGluLysValThrLeuThrIleSerAspIleGlyAlaSerAla	319

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alignment_scores:
Quality:
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SGD; S0001431; Hypothetical prosignal 1CHAIN 24
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CARBOHYD
CARBOHYD
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                                                                         266
                                                                                                                                         251 nSerValSerSerAla.....SerGlySerSerSerPheProGlnS 266
                                                                                                                                                                                                                                                                                      221
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      522 TGGCTTAACTGAGCGTGGCATTGTGTTATCCGCTCCACAAATTGATAAAT 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        472 AATAATATTGCAACAGCTCAAACCAGTTTAGGCACGATTCAAACCGCTAT 521
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                                                                                                                                                                                                                                                                                                                                                                                                                              188 AspValSerSerSerValSerGlnSerSerSerSerAlaSerAspValSe 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     154 rSerSerAlaSerAspValSerSerSerValSerGlnSerAlaSerS 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93
                                                                                           CAGATAAAAATGCTTCAACAGCTAAAAAAGTGGGTGCGGGTTTTGAATTG 1026
                                                                                                                                                                              AGATGTTATCTCAGGGCTATTATCGGGCGCAACAGCTGCACTTGTACTTG
                                                                                                                                                                                                               SerGlnSerAlaSerSerThrSerGlyValSerSerSerGly...SerGl 251
                                                                                                                                                                                                                                                                                                                                                                                       TAATTCAGTA.....AAAACACTTGACGAATTTGGTGAGCAAA 826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               erValSerGlnSer...AlaSerSerThrSerAspValSerSerSerVal 137
                                                                         erThrSerSerAlaSerThrAla
                                                                                                                                                                                                                                                                                      alSerGlnSerAlaSerSerThrSerAspValSer....SerSerVal 235
                                                                                                                                                                                                                                                                                                                       TTAGTCAATTTGGTTCAAAACTACAAAATATCAAAGGCTTAGGGACTTTA 876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTGCTAAAGCTGGCTTGGAGCTAACAAATTCATTAATTGAAAATATTGC 788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   erAlaSerAspValSerSerSerValSerGlnSerAlaSerSerThrSer 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerGlnSerSerSerAlaSerAspValSerSerSerValSerGlnSe 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTACAAAATGCAAATAAAGCCAAAACTGTATTATCTGGCATT.....
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Gaps: 26
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N-LINKED (GLCNAC. . .) (POTEE
N-LINKED (GLCNAC. . . ) (POTEE
N-LINKED (GLCNAC. . . ) (POTEE
N-LINKED (GLCNAC. . . ) (POTEE
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                                                                       SerGlySerAlaThr 278.
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1834	CTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGCTACG	1791	
w t	spGlyThrThrGly	547	
546 1790	lyLysAsnGlnIleAlaIleThrAlaAspIleThrAlaLeuSerT	1741	
7	TTCGAGAAATGTATTAGTGGCTCCAACTTCAATG	1691	
530	::::: 	519	
1690	TGTGACAAACAGCTTAGATAAGTTAATCTCATCTGTAAGTGCATTTA	1641	
518	roThrGlu	515	
1640	CTATCAAAAGTTGTTGATAACTATGAATTGCTCAAACATAGCAA	1591	
A 0	GlvGlnThrValValPheLvsGlvGlvGlvValLeuAlaVal	498	
1596	TATTE CHISTATE TO CAP	7 5 7 L	
o in	Togui cauranto	1521	
481	erThrTyrValI	465	
1520	TAAAGATGAGAAAATC	1486	
464	::: ::: luGlySerValAsnAsnGlyGluI	œ	
1485	ACTGGTTCCGAGAGGCTGATTTTGCTAAAGAAGTGCCTAATTATAAAGCA	1436	
448	lyAlaPheSerPhe	431	
1435	ATTCAA	1429	
	heSerProTyrSerAsnSe	415	
1428	· · · · · · ·	1399	
1398 414	ACATAATCTTGTC	405	
, (, (
1348 405	GGTTACTGCAATTAATACCGCATTGGCCGCTATTGCTGGTGGTGGTGTT :::: ::::::::::::::::::::::::::::::	1302	
388	PheAspIleSerGlyGluAsnPheAspValThrGlyAsnPheAsnAlaGl	372	
1301	TTTATTAGCAGAATATCAGCGGGGAACAGGGACTATTGATGC	1255	
371	GlyAspLeuLeuValLysLysSerLysGluThrTyrProGlyThr	355	
1254	CCGAACGCTTTAAAAAATTAGGCTATGI	1217	
355	GlyAspLysTyrSerPheSerAlaAspLeuLysVa	343	
1216	ATTTGCCGGTATTGCCGATAAATTTAATCATGCAAAAAGTTTAGAGAGTT	1167	
342	GluGlyValValAlaAlaGlyAlaLysLeuThrLeuLeuAsp	328	
1166	CTGTTTCTCTTGCGATTAGCCCATTAGC	1126	
327	hrTh	311	
1125	TGTTGCAGCAGGTTTATCTTCAACTGGGCCCTGTGGCTGCT	1079	
311	.laSerAsnSerLeuSerSerSerAspGlyThrIleTyrLeuProT	294	
1078	TACATTTAG	1069	

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seq_name: SwissProt_39:TALI_HUMAN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chromosomal localization, and expression pattern.";

Genomics 62:316-319(1999).

1- FUNCTION: PROBABLY INVOLVED IN CONNECTIONS OF MAJOR CYTOSKELETAL STRUCTURES TO THE PLASMA MEMBRANE. HIGH MOLECULAR WEIGHT CYTOSKELETAL PROTEIN CONCENTRATED AT REGIONS OF CELL-SUBSTRATUM CONTACT AND, IN LYMPHOCYTES, AT CELL-CELL CONTACTS (BY
                                                                                              the European Bloinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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EMBL; AF078828; AAD13152.1; -. EMBL; AF177198; AAF23322.1; -. MIM; 186745; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Complete cDNA sequence
Submitted (JUL-1998) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TLN.
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Eukaryota; Futheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-OCT-2000 (Rel. 40, Created)
01-OCT-2000 (Rel. 40, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TALI_HUMAN
Q9Y490; Q9I
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                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                             <del>-</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ben-Yosef T., Francomano C.A.; "Characterization of the human talin (TLN) gene:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                SIMILARITY).
SUBUNIT: BINDS WITH HIGH AFFINITY TO VINCULIN AND WITH LOW AFFINITY TO INTEGRINS (BY SIMILARITY).
SIMILARITY: CONTAINS A DOMAIN FOUND IN BAND 4.1, EZRIN, MOESIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ..ATTGGAGCTACGGCCTGCGTCCGGGTG 2080
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the EMBL/GenBank/DDBJ databases
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alignment_scores:
   Quality:
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PFAM: PF01608; I.LWEO; 1.
PROSITE; PS00660; BAND_41_1; 1.
PROSITE; PS00661; BAND_41_2; 1.
PROSITE; PS50057; BAND_41_3; 1.
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rGluGluGlnGlnArgLeuArgGluAlaAlaGluGlyLeuArgMetA
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                                                        TCCCCAAAATTACCAATATGATACTGAACAAGGTAATGGTTTACAGGATT
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1251	AAAGTTTAGAGAGTTATGCCGAACGCTTTAAAAAATTAGGCTATGACGGA	1202
1163	AlaIleValLeuAspThrAlaSerAspValLeuAspLys	14
1201	ATTAGCCCATTAGCATTTGCCGGTATTGCCGATAAATTTAATCATGC	15
1151	TTCTACTGTTTCTCTTGC	1130
6711	no turs it i i tra a contract and a	1100
1104	ATTTTAGCCCAACGTGTTGCAGCAGGTTTATCT	- 0
1113	AlaValSerSerAlaIleAlaGlnLeuLeuGlyGluValAlaGl	1096
1071	:	1056
1096	TIGGCAAACCAAGTIGTIGGIAATAI :::::: ::: LysCysThrGlnAspLeuGlyAsnSe	1080
2 0	ilysalaalaalaargaspGlyLysLeu	
	AGCTGCACTTGTACTTGCAGATAAAAATGCTTCAACAGCTAAA	· 0
1067	lGlnAsnLeuGluLysa	1050
955	TTTAGATGTTATCTCAGGGCTA	915
914 1050	GTGGACTTGATAAAGC s:: ysGlyProLeuGluMe	865 1034
1033	laMetGlnLeuSerGlnCysAlaLysAsnLeuGlyThrAlaLeuAlaGlu	1017
864	CAAATTAGTCAAATTTGGTTCAAAAACTACAAAAATATCAAAGGC	823
1017	SerValProThrIleGlnAspGlnAlaSer	1007
822	AGTAAAAACACTTGACGAATTTGGTG	774
1006	:::::: LysmetValalaAlaAlaLysAla	
773	CTTGCTAAAGCTGGCTTGGAGCTAACAAATTCAT	724
997	LeuGlnPrc	994
723	AGGCTCAGTATTGGCTGGAATGGATTTAGATGAGGCCTTACAC	674
993	::::::::::::::::::::::::::::::::::::::	
673	CAAAACTGTATTATCTGGCATTCAATCTAT	624
80	serGlnAlaGlnProAspSerProSer	967
623	VAACTAAAGCAGGCCAAGCATTAGGTTCTGCCGA	574
966	TIANGISANGUTISAGATISISTIATUCSCIUCACAAATTISTATAAATTISTISTIATUU	950
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525 950	AACAGCTCAAACCAGTTTAGGCACGCATTCAAACCGCTATTGGC ::: ::: :::	483 933
482 933	.aLysGlnAlaAlaAlaSerA	463 917
462 916	TAGTCAAAGCGGCCGAAGAGTTGGGGATTGAGGTACAAAGA :::::: :: :: :::	900
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.snGlyAsnLeuProGluPheGl .snGlyAsnLeuProGluPheGl .:::	1410 1907
TGGCAGCGGTAGCCAAGATTGGA1906	1884
CCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCC 1883 :::::::::::::::::::::::::::::::::::	1843 1393
AAG :: snA	1804 1377
TCAGCATTGGAGCTACGGCCTGCGC	1779 1360
CAATTTGCT ysThrGlnGlnAla	1744 1344
ATTCGAGAAATGTATTAGTGGCTCCAACTTCAATGTTGGAT 1743 :: :: :: ::	1703 1327
CAGCTTAGATAAATCTCATCTGTAAGTGCATTTACCTCGTCTAATG 1702 	1653 1310
AAAGTTGTTGATAACTATGAATTGCTCAAACATAGCAAAAATGTGACAAA 1652 ::: ::: ::::::::: ::::::::::::::	1603 1294
ATGAGCTATCA 1602 	1592 1277
TAACGGCAA: :::: :: aSerGlyAr	1542 1260
rCATCGGTCAAAATGGC ::::: suValGln	1492 1250
AAGTGCCTAATTATAAAGCAACTA alaalaGlyL	1442 1243
TCTTGTCATCACGAATAGCAAAAAAGAGAAAGTGACCATTCAAAACTGGT 1441 : gLeu	1392 1241
GCCGATTTAACATTTGAAAAAGTTAAACATAA 139 ::: serAspLeuLeuProProSerThrGlyThrPheGlnGluAlaGlnSerAr 124	1360 1225
ATTAATACCGCATTGGCCGCTATTGCTGGTGGTGTGTCTGCTGCTGCA 1359 .:::::::: ::::: :: :: spValAspAsnAlaLeuArgAlaValGlyAspAlaSerLysArgLeuLeu 1224	1312 1208
GGTTACTGCA	1302 1191
GATAATTTATTAGCAGAATATCAGCGGGGAACAGGGACTATTGATGCATC 1301	1252 1178
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Similarity:

Quality: Ratio:

154.00 1.901 58.273

Percent Identity:

31.655

Length: Gaps:

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SM41_HEMPU STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SUBCELLULAR LOCATION: SECRETED.
-!- TISSUE SPECIFICITY: EXPRESSED SPECIFICALLY IN THE MICROMERE/PRIMARY MESENCHYME CELLS (PMC) LINEAGE.
-!- DEVELOPMENTAL STAGE: APPEARS IN GASTRULAE AND REMAINS
                                                                                                                                                                                               entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                      -1- SIMILARITY: CONTAINS 1 C-TYPE LECTIN FAMILY DOMAIN-1- SIMILARITY: BELONGS TO THE SM50 FAMILY
                                                                                         Matrix protein;
                                                                                                       PROSITE; PS00615; C_TYPE_LECTIN_1; FALSE_NEGPROSITE; PS50041; C_TYPE_LECTIN_2; 1.
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-!- DOMAIN: THE REPETITIVE DOMAIN MAY PROVIDE A CALCITE
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"Isolation and characterization of cDNA encoding protein in Hemicentrotus pulcherrimus micromeres.
Int. J. Dev. Biol. 36:353-361(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-93075615; PubMed-1445780;
Katoh-Fukui Y., Noce T., Ueda T., Fujiwara Y., Hashimoto
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Echinodermata; Eleutherozoa; Echinoidea; Euechinoidea; Echinocea; Echinoida; S
                                                          CHAIN
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15-DEC-1998 (Rel.
15-DEC-1998 (Rel.
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104
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41 KDA SPICULE MATRIX PROTEIN.
C-TYPE LECTIN.
PRO-RICH.; 5A5397C46B80F6B5 CRC64;
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Strongylocentrotidae;
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alignment_scores:

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THE REPORT OF THE PROPERTY OF 
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CPN_DROME STANDARD;
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   calcium
                             Ballinger D.G., Xue N., Harshman K.D., "A Drosophila photoreceptor cell-specific
                                                                             STRAIN=CANTON-S;
MEDLINE=93165730; PubMed=8434015;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Musc
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                                                                                                                                                               SEQUENCE FROM
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                                                                                                                                                                                                                                                                                                                                                    STRAIN-CANTON-S;
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                                                                                                                                                                                                                   , Benzer S., Rudnicka M., Miller C.A.; a Drosophila photoreceptor cell calcium-binding Acad. Sci. U.S.A. 90:1531-1535(1993).
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   contains a
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alignment_block:
US-09-306-689-12/rev x CPN_DROME
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CONFLICT 36
CONFLICT 64
CONFLICT 76
CONFLICT 100
CONFLICT 126
CONFLICT 126
CONFLICT 154
CONFLICT 699
CONFLICT 721
CONFLICT 703
CONFLICT 721
CONFLICT 7721
                                                                                                                            1900 CTTGGCTACCGCTGCCAGGGCGCAGGCC...GTAGCTCCAATGCTGGCTA 1854
                                                                                                                                                                                                                    1935 CTGAGATCCACCCGGACGCAGGCCGTA.....GCTCCAAT 1901
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-!- FUNCTION: MIGHT FUNCTION AS A CALCIUM SEQUESTERING "SPONGE" TO REGULATE THE AMOUNT OF FREE CYTOPLASMIC CALCIUM. IT BINDS 0.3 MOL OF CA+2 PER MOL OF PROTEIN.

-!- SUBGUNIT: HOMODIMER (PROBABLE).

-!- SUBGULITA HOMODIMER (PROBABLE).

-!- SUBCELLULAR LOCATION: CYTOPLASMIC; HYPODENSE COMPARTMENT.

-!- TISSUE SPECIFICITY: SOMA AND AXONS OF PHOTORECEPTOR CELLS OF COMPOUND EYES AND OCELLI.
                                    1985 TAGCTCCAATCTTGAGAACCGCTGCCAGGGCGCAGGCCGTAGCTCCAATG 1936
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; L05080; AAA28420.1; -. PIR; A47282; A47282.
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laAlaProThrProProAlaAlaSerProValSerThrProValAlaVal 103
                                                                                                                                                                                                                                                                  roAlaProAlaAlaProIleAlaValThrProValAlaProProProThr 53
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                                                                                       eAlaAlaAlaSerValThrProValAlaSerValAlaProProValValA 87
                                                                                                                                                                            DEVELOPMENT.
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878	TAAACCAAGGCCAGCTTTATCAAGTCCACCGATATTTTTGAGTTTGTCTC	927
254	oProAlaThr	240
928	CAAGTACAAGTGCAGCTGTTGCGCCCGATAATAGCCCCTGAGATA	977
239	alAlaThrLysProLeuAla	233
978	CAAAACCCGCACCCACTTTTTAGCTGTTGAAGCATTTTTATC	1027
233	::: ::::: ::: ProGluCysValAlaProLeuIleProGluVal	220
1028	CTTTGGTAATATTACCAA	1077
219	ThrProAlaProProProValAlaGluIleProValAlaThrIle	205
1078	CCACAGGCCCAGTTGAAGATAAACCTGCTGCAAC	1127
204	 aProAlaValAla	195
1128	TAATGGGCTAATCGCAAGAGAAACAGTAGAAGCAA	1177
95	::::: AlaVa	193
1178	TTTTTGCATGATTAAATTTATCGGC	1227
192		183
1228	ATCT	1277
1278 182	CCAATGCGGTATTAATTGCAGTAACCGATGCATCAATAGTCCCTGTTCCC :::::::::::::::::::::::::::::	1327 166
0	Proprovalvale	161
· ω	AGCAGCAGACACCACCAGCAATAGC	1377
160		160
1378	TTTTTGCTATTCGTGATGACAA	1427
160		160
1428	AATTAGGCACTTCTTTAGCAAAATCAGCCTCTCGGAACCAGTTTTGAATG	1477
160	roValIleSerProValIleAlaSe	152
1478	ATTTCTTCGATTTTC	1527
151	ThrProProValAlaAlaSerAlaProThrProAlaAlaValThr	137
1528	CTTTTGCGATAAGATCATCAACTTGCTTTGAG	1577
136	valīleala	134
1578	AAT	1627
133		133
1628	A GAT GAGAT TAACT TATCTAAGC TGTTTGTCACAT TTTTGC TATGTTTGA	1677
133	AlaAlaPro	131
1678	GAGCCACTAATACATTTCTCG	1727
1728 130	ATCCCCTAGCAAATTGAAGAGAAAACTTTGATCCAACATTGAAGTT ::: ::: aThrProThrProValValGln.IleProVal	1777 120
120	ValSerAlaProValAlaProPr	104
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                                                              ThrThrAlaSerValProGluThrThrAlaProProAlaAlaValProTh
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01-OCT-2000 (Rel. 40,
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                                                                                                                                                                                                         EMBL; M74578; AAA17046.1; -. EMBL; Z29327; CAA82523.1; -.
                                                                                                                                                                                                                                        the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                    "Organization and sequence of the flagellin genes of Campylobacter jeduni TGH9011 (ATCC43431).";
Submitted (FEB-194) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: FLAGELLIN IS THE SUBUNIT PROTEIN WHICH POLYMERIZES TO FORM THE FILAMENTS OF BACTERIAL FLAGELLA.
-!- SUBUNIT: HETEROPOLYMER OF FLAA AND FLAB.
-!- SIMULARITY: BELONGS TO THE BACTERIAL FLAGELLIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                  Chan V.L., Bingham H.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-ATCC 43431 / TGH 9011 / SEROTYPE LI036;
STRAIN-ATCC 43431 / TGH 9011 / SEROTYPE LI036;
Khawaja R., Neote K., Bingham H.L., Penner J.L.,
"Cloning and sequence analysis of the flagellin
"cloning and sequence analysis of the flagellin
jejuni TGH9011.";
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Quality:

Ratio:

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Gaps: Percent Identity:

Length:

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alignment_block: US-09-306-689-12 x FLA3_CAMJ			
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269 ACGGCCTGCGCCTGGCAGG	GCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGT ::: ::	318 72	
319 CCGGGTGGATCTAGCTTCCC	TCCCAAAAACTGGGGCAAAAAAAATTAT:::::: !!	362	
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559 184 uValGlnPheThrLeuLysA	CAAATTG	565 201	
566 ATAAATTGCTACAGAAAAC: :: ::::: ::: 201 lnLysValValIlleSerTh	GGCCAA GlyThr	612 217	
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663 TCAATCTATT	luThrA	691 246	
692 GAATGGATTTAGATGAGGCC	AATAACAGCAAC Asn	741 255	
742 GCTAAAGCTGGCTTGGAGC		764 269	

1527	TAAAGCAACTAAAGATGAGAAAATCGAAGAAATCATCGGTCAAAATGGC	1479
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147	TTGCTAAAGAAGTGCCTAATT	w
143 528	ATAATCTTGTCATCACGAATAGCAAAAAAGAGAAAAGTGACCATT ::: :::! ::::! alThrSerThrIleAsnAsnIleThrValThrGlnValAsnValLysAla	1388 512
138 512	TGGTGGTGTGTCTGCTGCTGCAGCCGATTTAACATTTGAAAAAGTTAAAC : :::::::::::::::::::::::::::::::::	1338 496
13 49	GGTTACTGCAATTAATACCGCATTGG ::::::::::::::::::::::::::::::: ::::::	ထ ထ
128 479	TTATTAGCAGAATATCAG ::: 	1244 467
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114 437	CTGTGGCTGCTTTAATTGCTTCTACTGTT ::: :: :: :: ::: :::	1114 421
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111 404	TTTAGCCCAACGTGTTGC	1063 394
106 393	CGGGTTTTGAATTGGCAAACCAAGTTGTTGGTAATATTACCAAAGCCGTT ::: ::: etGlyPheAsnSerAlaAsnLysGlyAsnIleLeuGlyGlyTyr	1013 379
101 379	TGCAGATAAAAATGCTTCAACAGCTAAAAAAGTGGGTG :: ::::: uSerLysGlyGlnIleAspAlaAsnValAlaAspAla	975 366
974 366		937 350
936 349	GCTGGCCTTGGTTTAGATGTTTATC ::: ::: :::! ysAsnAspGlyLysAspIleLeuIleSerGlyThrAsnLeuSerAlaIle	913 333
912 333	GACAAACTCAAAAATATCGGTGGACTTGATAAA :: ::: ::: aPheIleAsnProAsnMetLeuGluAsnTyrGlyArgLeuSerLeuValL	880 316
879 316	GGTTCAAAACTACAAAATATCAAAGGCTTAGGGACTTTAGGA ::::: 	838 303
837 302	ACACTTGACGAATTTGGTGAGCAAATTAGTCAATTT :::::: ::: ::: ::: alGluAlaSerIleAspGluAsnGlyLysLeuLeuLeuThrSerArgGlu	802 286
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pir2:I34661
pir2:E75590
seq_documentation_block:
    cyclolysin - Bordetella pertussis
    N;Alternate names: adenylate cyclase precursor; calmodulin-sensitive adenylate
    N;Contains: adenylate cyclase (EC 4.6.1.1), calmodulin-sensitive; hemolysin
    C;Species: Bordetella pertussis
    C;Date: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 16-Jul-1999
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pir2:H81020
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Documentation
                                                                                                                                                                                                                                                                                                                                                                   ! talin - mouse
                                                                                                                                                                                                                                                                                         sapB protein - Campylobacter fe
probable secreted protein - St
phase-1 flagellin - Salmonella
phase 1 flagellin - Salmonella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    methyl-accepting chemotaxis-re
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! hypothetical protein Y1044
cytokeratin 2 - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  keratin, 67K type II epidermal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    conserved hypothetical protein surface protein XF1981 [impor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cyclolysin - Bordetella
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                                                             cyclase-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  alignment_scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Gene:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F;983/Binding site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: S14100
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                                                               400
                                                                                                  465
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A;Contents: annotation; lysine palmitoylation
C;Comment: B. pertussis, the etilological agent of whooping cough, ation by host cell calmodulin of the adenylate cyclase activity o: C;Comment: Adenylate cyclase activity is activated upon binding o: C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Superfamily: cyclolysin; calmodulin-sensitive adenylate cyclase catalytic domain ho C;Reywords: calcium binding; calmodulin binding; cAMP biosynthesis; carbon-oxygen lya F;15-328/Domain: calmodulin-sensitive adenylate cyclase catalytic domain homology <AD F;25-35/Region: calmodulin binding #status predicted F;59-66/Region: nucleotide binding #status predicted F;59-66/Region: nucleotide binding #status predicted F;544-1085/Domain: hemolysin A homology <HLYA> F;1033-1041,1042-1050,1174-1182,1289-1297,1298-1308,1316-1324,1430-1438,1556-1564/Reg
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A; Molecule type: DNA
A; Residues: 1-1706 <GLA>
A; Residues: 1-1706 <GLA>
A; Cross references: EMBL:Y00545; NID:g396665; PIDN:CAA68613.1; PID:g396666
A; Cross references: EMBL:Y00545; NID:g396665; PIDN:CAA68613.1; PID:g396666
A; Closs references: EMBL:Y00545; NID:g396665; PIDN:CAA68613.1; PID:g396666
A; Claser, P.; Sakamoto, H.; Bellalou, J.; Ullmann, A.; Danchin, A.
BYTITLE: Secretion of cyclolysin, the calmodulin-sensitive adenylate cyclase--haemoly
A; Title: Secretion of cyclolysin, the calmodulin-sensitive adenylate cyclase--haemoly
A; Contents: annotation; identification of adenylate cyclase--hemolysin bifunctional p
B; Munier, H.; Gilles, A.M.; Glaser, P.; Krin, E.; Danchin, A.; Sarfati, R.; Barzu, O.
B; Munier, H.; Gilles, A.M.; Glaser, P.; Krin, E.; Danchin, A.; Sarfati, R.; Barzu, O.
B; Munier, H.; Gilles, A.M.; Glaser, P.; Krin, E.; Danchin, A.; Sarfati, R.; Barzu, O.
B; Title: Isolation and characterization of catalytic and calmodulin-binding domains o
A; Reference number: S14100; MUID:91177021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: protein

A; Residues: 1-78, 'M', 80, 'M', 82-97, 'M', 99-139, 'M', 141-178, 'M', 180-399

R; Hackett, M.; Guo, L.; Shabanowitz, J.; Hunt, D.F.; Hewlett, E.L.

Science 266, 43-435, 1994

A; Title: Internal lysine palmitoylation in adenylate cyclase toxin fx

A; Reference number: A55167; MUID: 9502937

A; Reference number: A55167; MUID: 9502937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Glaser, P.; Ladant, D.; Sezer, O.; Pichot, F.; Ullmann, A.; Danchin, A. Mol. Microbiol. 2, 19-30, 1988
A;Title: The calmodulin-sensitive adenylate cyclase of Bordetella pertussis: cloning A;Reference number: S00893; MUID:88216178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C; Accession: S00893; S14100; S02389
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500 TAGGCACGATTCAAACCGCTATTGGCTTAACTGAGCGTGGCATTGTGTTA
                                                                                                                                                                                                                                                                                                                                 415 CAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGGATTGAGGTACAAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        364 aAlaProGlyValProSerGlyArgSerLysPheSerProAspValLeuG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           349 AlaTyrGlyVal...AlaGlyLysSerLeuPheAspAspGlyLeuGlyAl
                                                                               nAspSerGlyTyrAspSerLeuAspGlyValGlySerArgSerPheSerL
                                                                                                                                                              AGAACGC......AATAATATTGCAACAGCTCAAACCAGTT
                                                                                                                                                                                                                                                  Arg.....ArgProSerLeuGly...AlaValGluArgGl
                                                                                                                                                                                                                                                                                                                                                                                                                         luThrValProAlaSer...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTATATTCCCCAAAATTACCAATATGATACTGAACAAGGTAATGGTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGTCCGGGTGGATCTAGCTTCCCAAAAACTGGGGCAAAAAAATTATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCTACGGCCTGCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCT
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54.297
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Gaps:
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21
22.266
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417	euGlyGluValSerAspMetAlaAlaVal 4	126
550 427	TCCGCTCCACAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAGC 5 :::	599 143
600	TTGTACAAAATGCAAATAAA	543
443	pAlaGluProGlyValSerGlyAlaSerAlaHisTrpGly	160
644	AACTGTATTATCTGGCATTCAATCTATTTTAGGCTCAGTATTGGCTGGA	9
460	lnGlyAlaGlnAlaValAlaAlaAla	172
694 473	ATGAGGCCTTACAGAATAACAGCAACCAACATGCTCTTGC ::: :::	743 480
44	AAAGCTGGCTTGGAGCTAACAAATTCATTAA	775
08	_	197
776	PATTGCTAATTCAGTAAAAAACACTTGACGAATTTGGTGAGCAA	825
497	\laValPheGlyLeuGlyGluAlaSerSerAla	513
	AACTACAAAATATCAAAGGCTTAGGGACTTT	7
514	aG1uThrVa1SerG1yPhePh	522
522	aGlyGlyPheGlyValAlaGlyGlyAlaM	539
926	AGATGTTATCTCAGGGCTATTATCGGGCGCACACAGCTGCACTTGTACTT	975
539	eAlaAlaValGlyAlaGlyMetSerLeu	555
976 556	ATAAAAATGCTTCAACAGCTAAAAAAGTGGGTGCGGGTTTTGAATT ::: ::::::: :::::	1025 571
1026	CAAACCAAGTTGTTGGTAATATTACCAAAGCCGTTTCTTCTTACATTT	1075
7	AlaLeuGlnLeuThrGlyGlyThrValGluLeuAlaSerSerIleAlaL	588
1076 588	TAGCCCAACGTGTTGCAGCAGGTTTATCTTCAACTGGG :	1113 604
1114	CTGCTTTAATTGCTTCTACTGTTTCTCTTGCGATTAGCCCATT	1163
605	GlyalaalaalaGlyalaLeualaalaalaLeuSerProme	621
1164	AGCATTTGCCGGTATTGCCGATAAATTTAATCATGCAAAAAAGTTTAGAGA	1213
313	日田 7日のつつ 77つつ 7日の日の 77 でんじゅう 77つつ 77つの 77つの 77つの 77つの 77つの 77つの 77つ	y J
638	GTTATGCCGAACGCTTTAAAAAATTAGGCTATGACGGAGATAATTTATTA::::::::::	654
1264	AATATCAGCGGGAACAGGGACTATTGATGCATCGGTTACTGCAAT	1313
655	laGlnLeuTyrArgAspLysThrAlaAlaGluGlyAlaValAlaGlyVa	671
1314	TAATACCGCATTGGCCGCTATTGCTGGTGGTGTGTCTTGCTGCTGCAG	1360
O)	CGATTTAACATTTGAAAAAGTTAAACATAATCTTGTCATCACGAATAGC	4
88		701

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R;Kreitmeier, M.; Gerisch, G.; Heizer, C.; Mueller-Taubenberger, A.
J. Cell Biol. 129, 179-188, 1995
A;Title: A talin homologue of Dictyostelium rapidly assembles at the leading A;Reference number: A57036; MUID:95213284
A;Accession: A57036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       talin - slime mold (Dictyostelium discoideum)
c;Species: Dictyostelium discoideum
C;Date: 03-Oct1995 #sequence_revision 03-Oct-1995 #text_change 29-Oct-1999
C;Accession: A57036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: GB:U14576; NID:g797298; PIDN:AAC46586.1; PID:g797299 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-2491 < KRE>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Align seg 1/1 to: A57036 from: 1 to: 2491
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1064 LeuGlyAspLeuValLysSerAlaThrGluSerAlaSerSerValAlaIl 1080
                                                                                                                                                                                                                                                                                                                                       1132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1080 eSerAlaLysThrLeuIleCysAla.....ThrThrGlyLysGlnValG
1182 lnProThrGluGluPheAlaPheTyrValGluGluIleAlaSerSerThr 1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              512 AAACCGCTATT...GGCTTAACTGAGCGTGGCATTGTGTTATCCGCTCCA 558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               462 AGAAGAACGCAATAATATTGCAACAGCTCAAACCAGTTTAGGCACGATTC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          412 TTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGGATTGAGGTACAAAG
                                                                                                                                                                                                                         SerThrAlaAsnValAspCysLysGluLeuAspGluAlaSerAlaAspIl 1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                aSerArgSerValArgSerAsnProAsnAspArgArgSerGluLeuLeuL 1132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAGCATTAGGTTC
                                                                                                                                                                     CAGCAACCAACATGCTCTTGCTAAAGCTGGCTTGGAGCTAACAAATTCA. 771
                                                                                                                                                                                                                                                                                                                                    euAspArgArgSerAsnAspValSerIleSerThrAlaAlaLeuValGly
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                                                                                                              eSerAsnLeuLeuSerLeuLysMetGlySerLeuGluSerIleLeuSerG
                                                                                                                                                                                                                                                                                                                                                                                      .....TCTGGCATTCAATCTATTTTAGGCTCAGTATTGGCTGGA 693
                                                 .....TTAATTGAAAATATTGCTAATTCAGTA 798
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0.583
48.154
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Percent Identity:
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31
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	seq_name: pir1:KRHU2	ı Co
2029 1635	CGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCC::: ::::: ::: :::: .LeuSerValAlaValGlySerPheAspSerSerAla	
1981 1620	1932 TCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGA ::	
1931 1604	1882 CCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGATC :	•
1881 1587	1880	
1879 1570	1860 GCTIGGAGCTACGGCCTGC	
1859 1554	1810 AGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCA	
1809 1538	1766 TTGCTAGGGGATCTCAGCATTGGAGCTACGGCCTGCGCCCTGGC	
1765 1521	.1716 ATTAGTGGCTCCAACTTCAATGTTGGATCAAAGTTTATCTTCTCTTCAAT ::::::::::::::::::::::	
1715 1506	1666 TTAATCTCATCTGTAAGTGCATTTACCTCGTCTAATGATTCGAGAAATGT ::::: ::::: 1493 AlaValLysSerValThrSerLysGluProGlyAlaLysAl	
1665 1492	1616 ACTATGAATTGCTCAAACATAGCAAAAATGTGACAAACAGCTTAGATAAG :: :: ::: ::: 1479 erthrGlnGlnLeuAlaHisAlathrSerSerLeuAlaArg	
1615 1479	1566 AAAAGGTAACGGCAAAATTACCCCAAGATGAGCTATCAAAAGTTGTTGATA ::: :: 1471 nValargāspGlylleValLysS	
1471	::: ::: :::: ::::::: :::::::	

R;Johnson, L.D.; Idler, W.W.; Zhou, X.M.; Roop, D.R.; Steinert, P.M. Proc. Natl. Acad. Sci. U.S.A. 82, 1896-1900, 1985 A;Reference number: A22940; MUID:85166239 A;Accession: A22940 A;Accession: A22940 A;Accession: A2940 A;Residues: 1-643 A;Title: Amino acid sequences of mouse and iate filament subunits.
A;Reference number: A92535; MUID:85207740 C;Species: Homo sapiens (man)
C;Date: 04-Dec-1986 #sequence_revision 22-Oct-1999 #text_change 10-Dec-1999
C;Accession: A22940; A02950; A43342 A; Molecule type: mRNA A; Residues: 151-183, 'K', 185-199, 'M', 201-204, 'K', 206-236, 'S', 238-239, 'R', 241-356, 'Y', 3 A;Cross-references: GB:M98776; GB:M11215; GB:M11845; GB:M11846; NID:g1843461 A;Note: translation of initiator Met is not shown R;Steinert, P.M.; Parry, D.A.D.; Idler, W.W.; Johnson, L.D.; Steven, A.C.; Roop, J. Biol. Chem. 260, 7142-7149, 1985 A; Accession: A02950 keratin 1, type II, cytoskeletal - human N;Alternate names: 67K type II epidermal keratin; cytokeratin 1 seq_documentation_block: S',638-643 <STE> human epidermal type II keratins of M-r 67

D.R.

A;Cross-references: GB:M10938; NID:g186787; PIDN:AAA36153.1; PID:g386854

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alignment_block:
US-09-306-689-12 x KRHU2
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Quality:
Ratio:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A:Molecule type: DNA
A:Residues: 144-146, 'P',148-159, 'P',161-183, 'K',185-186 <CHT>
A:Residues: 144-146, 'P',148-159, 'P',161-183, 'K',185-186 <CHT>
A:Cross-references: GB:M98776; GB:M11215; GB:M11845; GB:M11846; NID:g1843461
A:Note: Sequence extracted from NCBI backbone (NCBIP:112784)
C:Comment: The cytoskeletal and microfibrillar keratins are classified into two types, the statin IF protein subunit appears to be a heterotetramer of two type I and two type II processed in terminally differentiating epidermis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Experimental source: tissue neonatal foreskin A;Note: the authors translated the codon CUG for residue 476 as Met R;Chipev, C.C.; Korge, B.P.; Markova, N.; Baie, S.J.; DiGiovanna, J.J.; Compton, J.G.; SCell 70, 821-828, 1992
A;Title: A leucine----proline mutation in the H1 subdomain of keratin 1 causes epidermol A;Reference number: A43342; MUID:92386601
A;Accession: A43342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 F;493-512/Region:
F;513-643/Region:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GDB:128198; OMIM:139350
A;Map position: 12q11-12q13
A;Note: defects in this gene may result in epidermolytic hyperkeratosis
C;Complex: heterotetramer of two type I, usually keratin 10 (see PIR:KRHUO), and two type
C;Superfamily: cytoskeletal keratin
C;Reywords: coiled coil; heterotetramer; intermediate filament
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Gene: GDB:KRT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Status: preliminary; not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1180-214/Region: coil 1A
1215-226/Region: coil 1A
1215-226/Region: linker 1
1227-327/Region: coil 1B
1227-327/Region: linker 12
1345-363/Region: coil 2A
1345-363/Region: coil 2A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Align seg 1/1 to: KRHU2 from: 1 to: 643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               328-344/Region:
345-363/Region:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        430/Region: stutter
493-643/Domain: tai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4-179/Domain: head <HED>
4-143/Region: El and VI subdomains
14-179/Region: HI subdomain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     372-492/Region: coil 2B
                                                         263 GGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGC 312
                                                                                                                         116 yPheGlyGlyPheGlySerGly......GlyGlyGlyPheGlyGlyG 130
                                                                                                                                                                                                213
                                                                                                                                                                                                                                                100 GlyGlyPheGlyGlyGlyPheGlyGlyGlyGlyIleGlyGlyGlyGl 116
130 lyGlyPheGly......GlyGlyGlyGlyTyrGlyGlyGlyTyrGly 143
                                                                                                                                                                                                                                                                                                                   184 TGGAGCTACGGCCTGCGC......
                                                                                                                                                                                                                                                                                                                                                                                                                                   134 GCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGATCTCAGCAT 183
                                                                                                                                                                                                                                                                                                                                                                                83
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       34 AGCTACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCT
                                                                                                                                                                                                                                                                                                                                                                   lyGlyGlySerGlyPheGlyGlyGlyTyrGlyGlyGlyGlyPheGlyGly 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                uAlaGlySerGlyGlySerIleAlaSerIleSerGlyAlaArgGlyGlyG 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCA 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerPheGlyAlaGlyGlyPheGlySerArg.....SerLe 66
                                                                                                                                                                                      TTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATT 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              H2 subdomain
V2 and E2 subdomains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tail <END>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       172.00
0.506
47.288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps:
Percent Identity:
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                                                                                                                                                                                                                                                                                                             .....CCTGGCAGCGG 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       719
34
21.140
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366		366
1176	TAATTGCTTCTACTGTTTCTCTTGCGATTAGCCCATTAGCATTTGCCGGT	1127
366	:: AlaGlnLysSerLysAla	361
1126	AGCCCAACGTGTTGCAGCAGGTTTATCTTCAACTGGGCCTGTGGCTGCTT	1077
360	AspSerIleIleAlaGluValLysAlaGlnAsnGluAspIle	347
1076	GCAAACCAAGTTGTTGGTAATATTACCAAAGCCGTTTCTTCTTACATTTT	1027
346	erGluThrAsnVallleLeuSerMetAspAsnAsnArgGlnPheAspLeu	330
1026	CAGATAAAAATGCTTCAACAGCTAAAAAAGTGGGTGCGGGTTTTGAATTG	977
330	ELEUThrAlaLeuTyrGlnAlaGluLeuSerGlnMetGlnThrGlnIleS	313
976	TATCTCAGGGCTATTATCGGGCGCAACAGCTGCACTTGTACTTG	933
313	LysValAspLeuGlnAlaLysLeuAspAsnLeuGlnGlnGluIleAspPh	297
932	AAACTCAAAAATATCGGTGGACTTGATAAAGCTGGCCTTGGTTTAGATGT	883
296	luPheValThrIleLysLysAspValAspGlyAlaTyrMetThr	282
882	GGTTCAAAACTACAAAATATCAAAGGCTTAGGGACTTTAGGAGAC	83
282	LysTyrGluAspGluIleAsnLysArgThrAsnAlaGluAsnG	267
832	TTCAGTAAAAACACTTGACGAATTTGGTGAGCAAATTAGTC	792
267		254
791	GCTGGCTTGGAGCTAACAAATTCATTAATTGAAAATATTGC	748
253	spGlnLeuLysSerAspGlnSerArgLe	242
747	ATTTAGATGAGGCCTTACAGAATAACAGCAACCAACATGCTCTTGCTAA	698
242	::::::::::::::::::::::::::::::::::::::	22!
697	TGTATTATCTGGCATTCAATCTATTTTAGGCTCAGTATTGGCTGGAATGG	648
225	ThrLysTrpGluLeuLeuGlnGlnValAspThrSerThrArgTh	209
647	TCTGCCGAAAGCATTGTACAAAATGCAAATAAAGCCAAAAC	607
208	4IleAspLysValArgPheLeuGluGlnGlnAsnGlnValLeuGln	194
606	CACAAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAGCATT	557
193	2 rPhe	192
556	GATTCAA	507
192	6 LysSerArgGluArgGluGlnIleGlnSerLeuAsnAsnGlnPheAlaSe	17
506	CAAAGAGAAGAACGCAATAATATTGCAACAGCTCAAACCAGTTTAGGCA	457
175	::: :::	172
456	ATGGTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGGATTGAGGT	407
171	nSerLeuLeuGlnProLeuAsnValGluIleA	158
406	AATTATCCTCTATATTCCCCCAAAATTACCAATATGATACTG	357
158	4 ProvalCysSerProGlyGlyIleGlnGluValThrIleAsnGl	144
356	CTGCGTCCGGGTGGATCTAGCTTCCCAAAAACTGGGGCAAAAA	313

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A,Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic | A;Reference number: A82950 A;Accession: C83339 A;Status: preliminary A;Molecule type: DNA A;Residues: 1-5627 <STO> A;Experimental source: GB:AE004673; GB:AE004091; NID:g9948501; PIDN:AAG05850.1; GSPDB:A;Experimental source: strain PA01 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Species: Pseudomonas aeruginosa
C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 15-Sep-2000
C;Accession: C83339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               alignment_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                alignment_scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   seq_name: pir2:C83339
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq_documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Align seg 1/1 to: C83339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-306-689-12 x C83339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
                                                           5104 erThrIleAsnAsnArgGlyAsnLeuGlyAspValValLysAspValThr 5120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5048 AlaLeuGlySerMetAlaGlyValGlyAla......
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5031 euAlaIleAlaIleValValAlaTyrPheThrAlaGlyAlaAlaSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5018 TrpLysTyrSer......AsnSerGly.LeuGlyValGlyAlaGlnL 5031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2079 TGGATCC 2085
                                                                                                                                                                                                                                              325 GGATCTAGCTTCCCAAAAACTGGGGCAAAAAAAATTATCCTCTATATTCC 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       225 GAGCTACGGCCTGCGTCCGGGTGGCCTCTAGCCAGCATTGGAGCTACGGCC 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   125 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGA 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  617 rSerSer 619
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400 CAAGGTAATGGTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGAT 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81 CCTGCGTCCGGGTGGCTCTAGCC....AGCATTGGAGCTACGGCCTGC 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31 TGGAGCTACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAGCTACGG
                                                                                                                       CCAAAATTACCAATAT.....
                                                                                                                                                                                   tGlyMetAlaSer....
                                                                                                                                                                                                                                                                                                    ....AlaGlyTrpAlaAsnAlaAlaGlyThrAla...ValAlaMe
                                                                                                                                                                                                                                                                                                                                                                TGCGCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 324
                                                                                                                                                                                                                                                                                                                                                                                                                              lySerThrAlaMetValGlnAlaGlyThrAla...ValGlyThrAlaAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTG 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Quality:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        171.50
0.482
49.103
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Percent Identity: 22.483
                                                                                                                                                                                   .....AsnGlyAlaIleS 5104
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                                                                                                                       ....GATACTGAA 399
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5121 450	SerSerAspAlaLeuArgGlyTyrValValAlaGlyThrThrAlaGlyLe 5 T	137 84
485 5154	ACCAGTTTAGGCACGATTCAAACCGCTATTGGCTTAACT 5 :::	31
532 5171	CGCTCCACAAATTGATAAATTGCTACAGAA 5	81 174
582 5175	AAGCATTAGGTTCTGCCGAAAGCATTGTACAAAATG 6	185
632	AAATAAAGCCAAAACTGTATTTATCTGGCATTCAATCTATTTTAGGCTCA 6	81
682	TATTGGCTGGAATGGATTTAGATGAGGCCTTACAGAATAACAGCAA 7	28
5194	::: :::	207
729	TAATTG 7	78
5207		207
779 5208	AAAACACTTGACGAATTTGGTGAGCAAATT 8 ::: Phe 5	28 213
829 5214	NTCAAAGGCTTAGGGACTTTAGG 8	78 222
879 5222	AATATCGGTGGACTTGATAAAGCTGGCCTTGGTTTAG 9	28 237
929 5237	AACAGCTGCACTTGTACTTGCA 9 ::: ::: uAlaAlaGluAlaValGlyGly 5	78 253
979 5254	AAGTGGGTGCGGGTTTTGAATTGGC :::::: LeuAlaAlaGlyValAsnGluAl	1028 5267
029 5267	TACCAAAGCCGTTTCTTACATTTTAG 1 :::: :::: uAlaLysGlnTyrAlaSerLeuProIleA 5	078 282
L079 5282	GTGGCTGCTTTA 1 :::::::: IleGlyValLeu 5	128 298
1129 5299	GCA	167 315
1168 5315	CATGCAAAAAGTTTAGAGA 1 ::: ::: 1TyrLeuSerH 5	213 329
1214 5329	GAGATAAT 1 ::: lyCysLysAspLys 5	257 345
1258	TTATTAGCAGAATATCAGCGGGGAACAGGGACTATTGATGCATCGGTTAC 1	307

pGlyValArgM	AlaLysTrpValAlaTyrGluValArgAs GCTACGGCCTGCGTCCGGG 2000 ::: ::: TyrGlnProAlaThrGly 5608	5586 1982 5602	
TyrThrSerLysGlyAs	: 1yv: 	5569 1953	
TGGAGCTACGGCCTGCGTCCGGGT :::::::: ::::: eAlaThrSer.ProSerThrLysT ATCTCAGCATTGGAGCTACGGCCT	TGCGCCCTGGCAGCGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT	1877 5553 1927	
CAGCATTGGAGCTACGGCC	TCCGGGTGGCTCTAGC	1842 5537	
AGATTGGAGCTACGGCCTGCG :: SLeuTrp	TACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCG ::: ::::: TyrGlyAspLysProGlySerGlyGlyHisLeuTrp	1792 5525	•
TCTTCAATTTGCTAGGGGATCTCAGCATTGGAGC:::: :::: pllebeuSerHisGluAlaLysGlnHisIlebeu	ATCAAAGTTTATCTTCTCTTCAATTTGCTAGGGGATCTCAGCATTGGAGC :::::: !:::: 1yLysG1yTyrValAspIleLeuSerHisG1uAlaLysG1nHisIleLeu	1742 5508	
AACTTCAATGTTGG ::: pLeuGlyArgLeuGlyGlyGlyG	TGATTCGAGAAATGTATTAGTGGCTCCAACTTCAATGTTG ::: ::	1701 5491	
CATCTGTAAGTGCATTTACCTCGTCTAA ::: AlaGluSerProValSerGlySerMe	AACAGCTTAGATAAGTTAATCTCATCTGTAAGTGCATTTACCTCGTCTAA :::::	1651 5480	
ACTATGAATTGCTCAAACATAGCAAAAATGTGACA ::: ::: LysLeuProThrAlaAlaLysAsnLeuVal	CAAAAGTTGTTGATAACTATGAAATTGCTCAAACATAGCAAAAATGTGAC ::: :::: bySLeuProThrAlaAlaLysAsnLeuVa	1601 5470	
AAATTACCCAAGATGAGCTAT :: ;lnlleThrala	TGATCTTATCGCAAAAGGTAACGGCAAAATTACCCAAGATGAGCTAT ::::::: yValLeuThrAlaValLysGlyGlyAlaGlnIleThrAla	1554 5456	
GGATCACCTCAAAGCAAGTTGA :::::: gPheAlaAlaGluLeuValGl	ATCATCGGTCAAAATGGCGAGCGGATCACCTCAAAGCAAGTTGA :: :::::::::	1510 5440	
GAAGAA ::: GluAspAlaGlyTrpGlnGly	ATTATAAAGCAACTAAAGATGAGAAAATCGAAGAA :: :: !:: LIPTOR	1475 5423	
.GATTTTGCTAAAGAAGTGCCTA :::::: ::: pasnTyrLeuLysGlyLeuGluG	AAACTGGTTCCGAGAGGCTGATTTTGCTAAAGAAGTGCC : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :	1434 5406	
CATCACGAATAGCAAAAAAGAGAAAGTGACCATTCA :: :: :: :: :: gGluThrTyrAlaAlaLeuGluGlnLeuAlaThrSe	AAACATAATCTTGTCATCACGAATAGCAAAAAAGAGAAAGTGACCATTCA 	1384 5391	
ACATTTGAAAAAGTT :::::	GTGTGTCTGCTGCAGCCGATTTAACATTTGAAAAAGTT ::::: ::::: ::: yileGlyLeuSerThrAlaGluThrAlaValGlyValTyrGluLeuVal	1343 5374	
GCATTGGCCGCTATTGCTGGTG	TGCAATTAATACCG : ::::: allelleSerAlaGlnGlnAspValGlyI	1308 5357	
ThrGlyIleGluAlaLysTrpAl	GlnLeuCysLysThrGl	5346	

seq_name: pir2:A75564
seq_documentation_block:

A; Molecule type: DNA
A; Residues: 1-1467 <WHI>
A; Cross-references: GB:AE001870; GB:AE000513; NID:g6457732; PIDN:AAF09665.1; PID:g64577:
A; Experimental source: strain R1
C; Genetics: conserved hypothetical protein - Deinococcus radiodurans (strain R1)

(;Species: Deinococcus radiodurans

C;Date: 03.Dec-1999 #sequence_revision 03-Dec-1999 #text_change 17-Mar-2000

C;Accession: A75564

R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, R.J.;

M; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, C.; M:

S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.

Science 286, 1571-1577, 1999 alignment_block: US-09-306-689-12 x A75564 alignment_scores: A;Gene: DR0075 A;Map position: 1 A;Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1. A;Reference number: A75250; MUID:20036896 Align seg 1/1 to: A75564 Ratio: Percent Similarity: Accession: A75564 332 322 468 418 305 322 368 ATATTCCCCAAAATTACCAATATGATACTGAACAAGGTAATGGTTTACAG 417 289 277 260 ATTGGAGCTACGGCCTGCGCCAGC..... 216 TCAAGATTGGAGCTACGGCCTGCGTCCG.....GGTGGCTCTAGCCAGC 244 ThrAspGlyThrValLysLeuSerAspGlyLeuArgGlnLeuGluAlaAl 260 166 210 289 260 aAlaProGlyGluThrGlnLeuAlaProLeuArgSerGlyAlaGlyGln. 276 227 rgLysLeuAlaAspGlyAlaGlyThrLeuSerSerGlyValGlyArgLeu 243 116 ACGGCCTGCGCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGT 165 194 LeuArgAspGlyAlaThrAspLeuGlnGluGlyThrValLysLeuArgAs 90 GGGTGGCTCT.....AGCCAGCATTGGAGCT 115 43 CTGCGCCCTGGCAGCGGTTCT...CAAGATTGGAGCTACGGCCTGCGTCC lnLeuProGln..... ||||:::||| |pGlyAlaSerAspLeuAlaAspGlyAlaAsnArgAlaAlaAspGlySerA 227 ACGCAATAATATTGCAACAGCTCAAACCAGTTTAGGCACGATTCAAACCG 517 GATTTAGTCAAAGCGGCCGAAGAGTTGGGGATTGAGGTACAAAGAGAAGA 467 aAsnGlyGlyAlaGlnGlnValAlaAlaGlyAsnLysGlnLeuAlaAlaG 322 GlyGlnLeuAlaAspGlyThrAspGlnLeuAlaAlaGlyAlaLysLysA1 305 CCGGGTGGATCTCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCGGTGGATCTAGCTTCCCAAAAACTGGGGCAAAAAAAATTATCCTCTGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCG.. 321 Quality: 169.00 0.426 47.375 LeuArgThrGlySerGluSerLeuAlaSerGlyLeu 288LeuGlnSerGlyLeuThr 331 from: 1 : Length: 838
Gaps: 40
Percent Identity: 22.196 to: 1467 367 288 259 215 89 Ma

72.9 7.27	TASICATIGCANAAAGT	617
617		809
119	GCGATTAGCCCATTAGCATTTGCCGGTATTGCCGATAAATT	ւ150
607	INICITICANCIPUSCCIPITEGCICITIANIPOCITCINCITETITCICITE ::::::::::::::::::::::::::::::::::::	596
596	SerGluGlyAlaAspArgLeuAlaSerGlyA	
0	CCGTTTCTTCTTACATTTTAGCCCAACGTGTTTGCAGCAGGTT	. ŭ
585	GlnLeuPro	569
104	AATTGGCAAACCAAGTTGTTGGTAATAT	L021
895	::::: laAsnAlaGlyAl	552
102	AACAGCTAAAAAAGTGGGTGCGGG	992
Ú (euGlnSerGlyLeuGlyGlnLeuSerGluGlyAlaAspArgLeuAlaS	w .
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942	36	925
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924	AAAATATCGGTGGACTTGATAAAGCTGGCCTTG	878
877 502	.CAATTTGGTTCAAAACTACAAAATATCAAAGGCTTAGGGACTTTAG	832 485
485	lyAlaLysAspAlaAsnAlaGlyAlaGlnGlnValAlaAla	469
831	AGTAAAAACACTTGACGAATTTGGTG	793
468	GlyAlaAspArgLeuAl	452
792	TGAAAATATTGCTA	775
452	GlnGlnValAlaAlaGlyAsnLysGlnLeuAlaAspGlnLe	435
774	TTGCTAAAGCTGGCTTGGAGCTAACAAATTCA	738
435	::::::: SpLysLeuAlaAlaGlyAlaLysSerAlaAsnGlyGlyA	419
737	GAATGGATTTAGATGAGGCCTTACAGAATAACAGCAACCAAC	889
	:::: :::::: nLeuAlaAspGlnLeuProGlnLeuGlnSerGlyLeuThrGlnLeuSe	0
687	СААААСТСТАТТАТСТСССАТТСААТСТАТТТАСССТСАСТА	638
	::: ::: ::::::::::::::::::::	œ
637	GGTTCTGCCGAAAGCATTGTACAAAATGCAAAT	588
	::: euThrGlnLeuSerGluGlyAlaAspLysLeuAlaAlaGlyAla	371
587	GCATTGTGTTATCCGCTCCACAAATTGATAAATTGCTACAGAAAACTA	538
370	=	354
537	GCTTAACTGAGCGT	518
354	AlaGlyAlaLysSerAlaAsnGlyGlyAlaGlnGlnV	342

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A;Cross references: GB:AE004017; GB:AE003849; NID:g9107083; PIDN:AAF84783.1; GSPDB:GN A,Experimental source: strain 9a5c R:Simpson, A.J.G.; Reinacch, F.C.; Arruda, P.; Abreu, F.A.; Acencio, M.; Alvarenga, R. Briones, M.R.S.; Bueno, M.R.P.; Camargo, A.A.; Camargo, L.E.A.; Carraro, D.M.; Carrer as Neto, E.; Docena, C.; El-Dorry, H.; Facincani, A.P.; Ferreira, A.J.S. submitted to GenBank, June 2000

A; Authors: Ferreira, V.C.A.; Ferro, J.A.; Fraga, J.S.; Franca, S.C.; Franco, M.C.; Fr J.D.; Junqueira, M.L.; Kemper, E.L.; Kitajima, J.P.; Krieger, J.E.; Kuramae, E.E.; La chado, M.A.; Madeira, A.M.B.N.; Madeira, H.M.F.; Marino, C.L.; Marques, M.V.; Martins, A; Authors: Martins, E.M.F.; Matsukuma, A.Y.; Menck, C.F.M.; Miracca, E.C.; Miyaki, C. F.G.; Nunes, L.R.; Oliveira, M.A.; de Oliveira, M.C.; de Oliveira, R.C.; Palmieri, Rodriques, V.; Rosa, A.J. de M.; de Rosa Jr., V.E.; de Sa, R.G.; Santelli, R.V.; Sawa A; Authors: da Silva, A.C.R.; da Silva, F.R.; da Silva, A.M.; Silva Jr., W.A.; da Silva, A.M.; Verjovski-Almeida, S.; Vettore, A.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-1190 <SIM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Title: The genome sequence of the plant pathogen Xylella fastidiosa. A;Reference number: A82515; MUID:20365717
A;Note: for a complete list of authors see reference number A59328 below A;Accession: A82615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;anonymous, The Xylella fastidiosa Consortium of the Organization for Nature 406, 151-157, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          surface protein xF1981 [imported] - xylella fastidiosa (strain 9a5c)
C;Species: Xylella fastidiosa
C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 20-Aug-2000
C;Accession: A82615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          us-09-306-689-12 x
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    alignment_scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seq_documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           seq_name: pir2:A82615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Contents: annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Reference number: A59328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Status: preliminary
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:: ||| :::
185 leGlySerGlyGlnGlySerLySThrAspGlyAsnThrSerGlyAlaThr 201
                                                                           122 TGCGCCCTGGCAGCGGTAGCCAA.....GATTGGAGCTACGGCCTG
                                                                                                                                                          168 uGlySerIleAlaThrMetAsnGlySerAlaGlyIleAspSerIleAlaI 185
                                                                                                                                                                                                                                                                                                             155 GlyLeuValAspIleSerGlyAla.....ThrTyrSerMetArgLe
                                                                                                                                                                                                                                                                                                                                                                                    40 GGCCTGCGCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           XF1981
                                                                                                                                                                                                                             GGGT......GGCTCTAGCCAGCATTGGAGCTACGGCC 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ysLeuLysGluAlaGlyGlnGlySerAlaAlaAlaValGlnGlyValGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aAlaGlyThrAlaGlnLeuSerGluGlyAlaThrThr...LeuSerThrL 938
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0.428
46.517
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Percent Identity: 21.842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   to: 1190
                                                                               162
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163	CGTCCGGGTGGATCTCAGCATTGGAGCTACGGCCTGCCCCCTGGCAGCGG 2 V=lalaGlaClaClaClaCacacacacacacacacacacacacacac	212
213	3 TTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGC 25	259
218	nSerGlnAspAlaIleSerIleGlyThrGlyAlaSerThrT 2	32
260	ATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCAAGATTGGAGC::::::::::::::::::::::::::::	306
232	hrGlyAsnPheAlaIleAlaIleGlyAsnGlyAlaLeuThrSerIleAla 2	48
307	TACGGCCTGCGTCCGGGTGGATCTAGCTTCCCAAAAACTGGGGCAAAAAA 3	56
249	AsnGlyIleAlaLeuGlyAlaSerSer	257
357	AATTATCCTCTATATTCCCCCAAAATTACCAATATGATACCTGAACAAGGTA	406
258	SerValThrThrArgGlyGlyV 2	65
407	ATGGTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGATTGAGGTA 4	56
265	alAlaLeuGlyGlnGlySerLeuAlaAlaThrAlaSerGlyIleThrGly 2	81
457	CAAAGAGAAGAACGCAATAATATTGCAACGGCTCAAACCAGTTTAGGCAC 5	906
282	TyrAspProValThrLysSerThrSerThrLeuSerThrSerMetTrp 2	97
507	GATTCAAACCGCTATTGGCTTAACTGAGCGTGGCATTGTGTTATCCGCTC 5	56
298	ArgSerThrLeuGlyAlaValSerIleGlyAsnIleThrSerSerT	313
557	CACAAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAGCATTAGGT 6	906
313	hrSerGlnThrArgGlnLeuThrGlyLeuAlaAlaGlyArgSerAspThr 3	29
607	TCTGCCGAAAGCATTGTACAAAATGCAAATAAAGCCAAAACTGTA 6	51
330	AspAlaValAsnValAlaGlnLeuLysLeuLeuAlaGluSerValGlyGl	346
652	TTATCTGGCATTCAATCTATTTTAGGCTCAGTAT 6	85
346	yGlyTrpAsnLeuThrAlaSerGlyAlaAsnSerSerAsnValA 3	861
989	TGGCTGGAATGGATTAGATGAGGCCTTACAGAATAACAGCAACCAAC	35
361	laLeuGlyGluSerValAspLeuLysAsnSerAspGlyAsnLeu	375
736	GCTCTTGCTAAAGCTGGCTTGGAGCTAACAAATTCATTAATTGAAAATAT 7	85
~1	LeuIleThrLysThrThrAspSerAsnAspValThrPheAsnLe	90
786	TGCTAATTCAGTAAAA	801
390	uAlaThrAlaLeuLysValAspSerLeuThrThrGlyAsnThrAlaMetT 4	107
802	ACACTTGACGAATTTGGT {	819
407	hrThrAspGlyValThrValGlyLysArgValThrLeuAspSerThrGly 4	123
820		836
424	LeuValIleAlaGluGlyProSerValIleSerSerGlyIleAsnAlaAl 4	140
837	TGGTTCAAAACTACAAAATATCAAAGGCTTAGGGACTTTAGGAGACAAAC 8	386
440	aGlyGlnLysIleMetAsnValGlyThrGlyThrAlaAspThrAspA 4	156
887	TCAAAAATATCGGTGGACTTGATAAAGCTGGCCTTGGT	924
\$ 56.		472

162	AACGGCAAAATTACCCAAGATGAGCTATCAAAAGTTGTTGATAACTATGA	1573
755	luSerValAspLeuLysAsnThrAspGlyAs	739
157:	AGCGGATCACCTCAAAGCAAGTTGATGATCTTATCGCAAAAGGT	1529
152k 739	<pre>3GGCG</pre>	1513 722
722	AlaValAsnPheSerGlnLeuGlnAlaValSerSerThrAlaSer	706
151	GCAACTAAAGATGAGAAAATCGAAGAAATC	1483
705	::: SsnValalaAlaGlyThrAlaAspThrAsp	696
148	AAAACTGGTTCCGAGAGGCTGATTTTGCTAAAGAAGTGCCTAATTATAAA	1433
143; 695	AATAGCAAAAAAAGAGAAAAGTGACCATTC	1405
680	GlySerAsnValThrLeuGlySerThrGlyLeuValIleThrAspGlyPr	664
140	AAACATAATCTTGTCATCACG	1384
663	spSerLeuThrThrGlyAsnThrAlaMetThrThrAspGlyValThrVal	647
128		1340
1339	TATTGATGCATCGGTTACTGCAATTAATACCGCATTGGCCGCTATTGCTG ATTGATGCATCGGTTACTGCAATTAATACCGCATTGGCCGCTATTGCTG	1290 630
630	GluSerValAspLeuLysAsnSerAspGlyAsnLeuLeuIleThrLysTh	614
1289	ACAGGGAC	1282
613	::: :::::::::::::::::::	597
1281	GAGATAATTTATTAGCAGAATATCAGCGGGGA	1250
597	ARAMAGITANANNITATOCCAMCUCTIAMANAATANNAATANOCLATUACO	587
587	ASnValAlaAlaGlyThrAlaAspThrAspAlaValAsnPheSerGlnLe	571
1199	TTAGCATTTGCCGGTATTGCCGATAAATTTAATCATGC	1162
570	lyProSerValThrSerSerGlyIleSerAlaGlyAsnGlnLysIleThr	554
1163	TTGCTTCTACTGTTTCTCTTGCGATTAGC	1130
554	<pre>ySerAsnValThrLeuGlySerThrGlyLeuValIleThrAspG</pre>	539
1129	CCAACGTGTTGCAGCAGGTTTATCTTCAACTGGGCCTGTGGCTGTAA	1080
539	SerLeuThrThrGlyAsnThrAlaMetThrThrAspGlyValThrValGl	523
1070	ОЗФЕНЕНИ СФЕНСТВОЛЕНО ОТВЕТЕНИЯ В В В В В В В В В В В В В В В В В В В	1030
1038	TGGGTGCGGGTTTTGAATTGGCAAACCAAGTT	1007
506	:::::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: ::: aSerValAspLeuLysAsnThrAspGlyAsnLeuLeuIleThrLysAlaI	489
1006	AACAGCTGCACTTGTACTTGCAGATAAAATGCTTCAACAGCTAAAAAAG	957
489	TrpAsnLeuLeuAlaSerGlyThrAsnSerSerAsnValAlaProGlyAl	473
956	TTAGATGTTATCTCAGGGCTATTATCGGGCGC	925

Residues: 1-152 Cross-reference Genetics:	ructural organization: 218168 57 .nary: translated fr	AF074611; NID:g3883003; PID Cready, P.; Skowronski, E.; a Library, March 1998	Accession: T14961 Status: preliminary; trans Molecule type: DNA	.E.; Plan 1. 66, 5 plete DN	hypothetical protein Y1044 - Yersinia pestis plasmid pMT1 C;Species: Yersinia pestis C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 22-Oct-1999 C:Accession: T14961: T14657	<pre>seq_name: pir2:T14961 seq_documentation_block:</pre>	2024 ACGGCCTGCGCCCTGGCAGCGTAGCCAAGATTGGAGCT 2062 :::::: ::: 916 ServalAlaLeuGlyAspGlyAlaLysaspGlyAla 927	1974 AGATTGGAGCTACGGCCTGCGTCCGGGTGGCCTCTAGCCAGCATTGGAGCT 2023 :::	. 4	1874 GCCTGCGCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCG 1923	1824 TTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGGCCAGCATTGGAGCTACG 1873 ::: ::::: :::	CAAGA GlyAs	1724 CTCCAACTTCAATGTTGGATCAAAGTTTATCTTCTCTTC	1674 ATCTGTAAGTGCATTTACCTCGTCTAATGATTCGAGAAATGTATTAGTGG 1723 ::: ::: ::::::: ::: ::: 820 rAsnValAlaAlaGlyThrAlaAspThrAspAlaValAsnLeuSerGlnL 837	1636 AGCAAAAATGTGACAACAGCTTAGATAAGTTAATCTC 1673 ::: ::: 804 GlyProSerValThrSerSerGlyIleAsnAlaGlySerGlnLysIleTh 820	::: GlySerMetGlyLeuValIleThrAsp	1623 ATTG	::: :::::: :::::: :: :: 756 SerGlySerAsnAspValLeuPheAsnLeuSerSerLeuLy 770
539 GCATTGTGTTATCCGCTCCACAAATTGATAAATTGCTACAGAAAACTAAA 588 :::::::::::::::::::::::::::::::::::	489 TCAAACCAGTTTAGGCACGATTCAAACCGCTATTGGCTTAACTGAGCGTG 538 ::: ::: :: 709 rGluargThrThrGlyThrMetAlaLeuGlyAspGlyAlaValAlaLysA 726	439 GAGTTGGGGATTGAGGTACAAAGAAGAAGAACAGCAATAATATTGCAACAGC 488 :: :: :::::: 696 GluValVallGluAlaArgLeuLysLysAsnGlnGluGluTy 709	389 ATGATACTGAACAAGGTAATGGTTTACAGGATTTAGTCAAAGCGGCCGAA 438 ::::	340 .AAAACTGGGGCAAAAAAATTATCCTCTATATTCCCCAAAATTACCAAT 388 :::	335 TCCCA	291 TAGCCAAGATTGGAGCTACGCCTGGTCGGTGGATCTAGGT 334 :: 640 leargLysileProGluAlaMetThrAlaAlaLysargAlaGlnMetAla 656	eThrTyrMetLeuArgSerGluThrSerLysValValAspGluI	AAGATTGGAGCTACGGCTGCGTCCGGTGGCTCTACCAACAAT AHIIIIIII:: ProlleGlyAlaAlaPheThrValAlaThrValAlaValAlaGlyLeuIl		tGlyLeuAlaProIleProSerLeuIlePheAlaIleArgGlyAlaIleT	GCAMARITOMAGETACOCCIOGETCOMICITACCATI :::::	TGCGCCCTGGCAGCGGTA TGCGCCCTGGCAGCGTA TGCGCCCTGGCAGCGTA TGCGCCCTGGCAGCGTA TGCGCCCTGGCAGCGTA TGCGCCCTGGCAGCGTA TGCGCCCTGGCAGCTA TGCGCCCTGCCACTA TGCGCCCTGGCAGCTA TGCGCCCTGCACTA TGCGCCCTGCACTA TGCGCCCTGCACTA TGCGCCCTGCACTA TGCGCCCTGCACTA	73 AGCTACGGCCTGCGTCCGGGTGGCTAGCCAGCATTGGAGCTACGGCC. 121 ::: :::::: ::::::: 526LysLeuMetArgAlaGlyTleAlaGlyValIleGlyThrAlaG 540	23 CTCAGCATTGGAGCTACGGCCTGCGCCTGGCAGCGGTTCTCAAGATTGG 72 ::: ::: ::::::: ::::: 513 IleSerLeuGlyLysValValAlaAlaMetValAlaPhe 525	1/1 to: T14961 from: 1 to: 1525	alignment_block: US-09-306-689-12 x T14961	alignment_scores: Quality: 166.50 Length: 883 Ratio: 0.386 Gaps: 44 Percent Similarity: 48.811 Percent Identity: 21.065	A;Gene: Y1044 A;Genome: plasmid pMT1

1269 1013	ATGAC	1244 997
97	:::: ::: 	980
1243	CATGCAAAAAGTTTAGAGAGTTATGCCGAACGCTTTAAAAAATTAGG	1194
980	CTTGCGATTAGCCCATTGCCGGTATTGCCGGTAATTTAA 	1147 964
963	pGluGluArgAlaAlaAlaIteAlaAlaLeuThrLysAlaArgGluG	947
1146	GTGGCTGCTTAATTGCTTCTACTGTTTCT	1117
947	${f nLeuGlnLysAlaSerSerAlaSerSerLeuGluLysMetSe}$	930
1116		1116
930	nGlyLysProIleIleGlyProLysGlnLeuLysT	914
1116		1111
913	erAlaThrTyrGlnArgThrLeuProAs	897
1110	CAGCAGGTTTATCTTCAACT	1082
897	hrAspLysAlaAlaGlnLysAlaLeuAlaGlnTyrMetArgAs	880
1081		1050
088	:::::::	865
1049	TGGGTGCGGGTTTTGAATTGGCAAACCAAGTTGT	1006
64	::: ::: GlnGluLeuThrGlnAlaGluP	848
1005	<u> ААСАGСТGСАСТТGТАСТТGСAGATAAAATGCTTCAACAC</u>	956
848		837
955	TTATCTCAGGGCTATTATCGGG	915
836	::: :::::::::::::::::::::::::::::::	825
914	TTAGGGACTTTAGGAGACAAACTCAAAAATATCGGTGGACTTGATAAAGC	865
824	LysGlnIleAlaHisPheSerAspMetLeuGluLysAlaLysLys	810
864	TTGGTGAGCAAATTAGTCAATTTGGTTCAAAACTACAAAATATCAAAGGC	815
809	aGlnLysLeuValTyrAspLeuSerSerArgLysAsnAlaThrGlu.	794
814	TTAATTGAAAATATTGCTAATTCAGTAAAAACACTTGACGAAT	765
794		778
764	AAGCTGGCTTGGAGCTAAC	736
777	AsnAspAspLysSerLeuSerAspAspGluLysAsnLys	765
735	TGGCTGGAATGGATTAGATGAGGCCTTACAGAATAACAGCAACCAAC	686
764	:	752
685	ACTGTATTATCTGGCATTCAATCTATTTTAGGCTCAGTAT	639
752	: 	741
959	3	689

2017	8 TGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATT	197
1309	::: AlaIleGlyAsnTrpValAsnGlyLeuPheTh	1293
1977		195
1954 1292	5 GAGCTACGGCCTGCGTCGGGTGGATCTCAGCATTGGAGCTACGGCCTGC :::	1905 1277
	.AGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCG ::: SSerValGlyGluAlaThrLysGluThrSerSerSerValSe	1859 1260
1858 1260	D AAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCC	1820 1244
1819 1243		1791 1227
1790 1227	GATCAAAGTTTATCTTCTCTCA ::: ::: ::: ::: .ValLysThrGlnIleThrLeup	1741 1211
1740 1210	CCTCGTCTAATGATTCGAGAAATGTATTAGTGGCTCCAACTTCAATGTTG ::: :::::::: ::: ::: spPheSerSerLeuAlaGluSerIleLeuArgAspIleThrAsnMetVal	1691 1194
1690 1194	CTCATCTGTAAGT	1671 1177
1670 1177	GAATTGCTCAAACATAGCAAAAATGTGACAAACAGCTTAGATAAGTTAAT	1621 1163
1620 1162	<pre> AAAATTACCCAAGATGAGCTATCAAAAGTTGTTGATAACTAT </pre>	1579 1146
1578 1146		1540 1129
1129	ATCACC ::: LeuLys	1534
11	CAACTAAAGATGAGAAAATCGAAGAAATCATCGGTCAAAATGGCGAGCG :::::::: ::: roSerargGluGluLysValalaAspPheAsnAspThrTyrAsnArgAs	9 8
<u>ت</u> 8	AAACTGGTTCCGAGAGGCTGATTTTGCTAAAGAAGTGCCTAATTATAAAG 	1434 1080
		1399 1064
1398 1063	TAACA luMet	1367 1047
1366 1047	CGCATTGGCCGCTATTGCTGGTGGTGTGTCTC ::: ::: ::: ::::: ::: ::: ::: ::::: sSerLeuThTGluLeuAlaAsnAlaValProAsnC	1320 1030
1319 1030	TATCAGCGGGGAACAGGGACTATTGATGCATCGGTTACTGCAATTAATAC :::::::::::	1270 1014

170 alGluIleAspProGlnIleGly	383 ACCAATATGATACTGAACAAGGTAATGGTTTACAGGATTTAGTCAAAGCG 432 ::: :::	345 TGGGCAAAAAAAATTATCCTCTATATTTCCCCAAAATT 382 ::::::::	295 CAAGATTGGAGCTACGGCCTGCGGTCGGGTGGATCTAGCTTCCCAAAAAAC 344	245 GTGGCTCTAGCCAGCATTGGAGCTACGGCCTGGCCCCTGGCAGCGGTAGC 294 :::::	195 CCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCGG 244	145 GATTGGAGCTACGGCCTGCGGTCGGGTGGATCTCAGCATTGGAGCTACGG 194 ::::	95 GCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCAA 144 :::	88CCGGGTG 94 ::: 57 rLeuTyrAsnLeuGlySerAsnLysSerIleSerIleSerValAlaAlaG 74	GCGCCCTGGCAGCGGTTCTCAAGATTC ::: eArgSerGlyAlaGly	alignment_block: US-09-306-689-12 x I53169 Align seg 1/1 to: I53169 from: 1 to: 638	Quality: 166.00 Length: 734 Ratio: 0.505 Gaps: 37 Percent Similarity: 44.823 Percent Identity: 23.161		A;Status; preliminary; translated from GB/EMBL/DDBJ A;Molecule type: mRNA A;Residues: 1-638 <res> A;Residues: 1-638 <resa 1-638="" <resa<="" a;residues:="" th=""><th>Differentiation 51, 137-148, 1992 A.Title: Suprabasal marker proteins distinguishing keratinizing squamous epithelia: Cyto A.Reference number: I53169; MUID:93114504 A.Accession: T53169</th><th>C;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 13-Aug-1999 C;Accession: I53169 R:COllin, C: Onlayoun. J</th><th>seq_name: pir2:I53169 seq_documentation_block:</th><th>2018GGAGCTACGGCCTGCCCCTGGCAGCGGTAGCCAAGATTGGAGCT 2062 ::::: :::: </th><th>::: ::: ::::::: ::: 1309 palaGluThrLysAlaValLysThrSerIlePheSerMetGlnAsnLeuS 1326</th></resa></res>	Differentiation 51, 137-148, 1992 A.Title: Suprabasal marker proteins distinguishing keratinizing squamous epithelia: Cyto A.Reference number: I53169; MUID:93114504 A.Accession: T53169	C;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 13-Aug-1999 C;Accession: I53169 R:COllin, C: Onlayoun. J	seq_name: pir2:I53169 seq_documentation_block:	2018GGAGCTACGGCCTGCCCCTGGCAGCGGTAGCCAAGATTGGAGCT 2062 ::::: ::::	::: ::: ::::::: ::: 1309 palaGluThrLysAlaValLysThrSerIlePheSerMetGlnAsnLeuS 1326
ACAGGGACTATTGATGCATCGGTTACTGCAATTAATACCGCATTGGCCGC	1232 AAAAATTAGGCTATGACGGAGATAATTTATTAGCAGAATATCAGCGGGGA 1281	1182 CGATAAATTTAATCATGCAAAAAGTTTAGAGAGTTATGCCGAACGCTTTA 1231 ::: ::::: 382	377 GlnThrLysLeuGly	AACGTGTTGCAGCAGGTTTATCTTCAACTGGGCCTGTGGCTGCTTTAATT	TGTTGGTAATATTACCAAAGCCGTTTCTTACATTTTAGCCC ::: 1::: ::: ::: 1::: ::: ::: ::	ArgCysLeuAsp	944 TATTATCGGGCGCAACAGCTGCACTTGTACTTGCAGATAAAAAT 987 ::	894 TATCGGTGGACTTGATAAAGCTGGCCTTGGTTTAGATGTTATCTCAGGGC 943 ::: ::: : 317 eLeuArgThrLeuTyrGluMetGluLeuSerGlnM 329	AAACTACAAAATATCAAAGGCTTAGGGACTTTAGGAGACAAACTCAAAAA :::::: :::::::	794 CAGTAAAAACACTTGACGAATTTGGTGAGCAAATTAGTCAATTTGGTTCA 843 :: :: 292LysāspValaspAlaalaPheMetāsn 300	748GCTGGCTTGGAGCTAACAAATTCATTAATTGAAAATATTGCTAATT 793 ::: ::: 286 uPheValGlyLeuLys	703 GATGAGGCCTTACAGAATAACAGCAACCAACATGCTCTTGCTAAA 747 :::	668 CTATTTTAGGCTCAGTATTGGCTGGAATGGATTTA 702 ::	618 CATTGTACAAAATGCAAATAAAGCCAAAACTGTATTATCTGGCATTCAAT 667 ::::::	580 AAAACTAAAGCAGGCCAAGCATTAGGTTCTGCCGAAAG 617 ::: :::::: ::: :::::: 220 GlnGlnThrThrGlySerGlyProSerSerLeuGluProCysPheGluSe 236	530 CTGAGCGTGGCATTGTGTTATCCGCTCCACAAATTGATAAATTGCTACAG 579 ::::::::: :::::: 205 luGlnGlnAsnLysValLeuGluThrLysTrpGluLeuLeuGln 219	483 AACAGCTCAAACCAGTTTAGGCACGATTCAAACCGCTATTGGCTTAA 529 ::::::::::::::: ::: ::: 	::: ::: ::: ::: :::

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seq_name: pir2:A44861
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysGlnSerAlaValCysIleSerValValSer.....AsnVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nGluLeu.....MetAsnValLysLeuAlaLeuAspValGluIleA 483
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                                                                                                                                                                                                                                                                                   ArgLeuGlyGlyAlaGlySerIleSerValSerHisSerGlyMetGlySe
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seq_documentation_block:

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keratin, 67K type II epidermal - human

N;Alternate names: cytokeratin 2, CK 2; epidermal cytokeratin 2

C;Species: Homo sapiens (man)

C;Pate: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 28-Apr-1995

C;Accession: A44861

R;Collin, C.; Moll, R.; Kubicka, S.; Ouhayoun, J.P.; Franke, W.W.

Exp. Cell Res. 202, 133-141, 1992

A;Title: Characterization of human cytokeratin 2, an epidermal cytoskeletal protein
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A;Accession: A44861
A;Accession: A44861
A;Molecule type: mRNA
A;Residues: 1-645 <COL>
A;Cross references: GB:S43646
A;Experimental source: epidermis
A;Note: the authors translated the codon GGC for residue 146 as Note: sequence extracted from NCBI backbone (NCBIN:112351)
C;Superfamily: cytoskeletal keratin
C;Keywords: coiled coil; intermediate filament
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 alignment_block:
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                                                               549 ATCCGCTCCACAAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAG 598
                                                                                                                               195 PheAlaSerPhe.
                                                                                                                                                                                           499 TTAGGCACGATTCAAACCGCTATTGGCTTAACTGAGCGTGGCATTGTGTT 548
                                                                                                                                                                                                                                                                                                                          449 TTGAGGTACAAAGAGAAGAACGCAATAATATTGCAACAGCTCAAACCAGT 498
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  144 roGlyGlyPheGlyProGlyGlyTyrProGlyGlyIleHisGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 255 CCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCAAGATTGGA 304
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACAAGGTAATGGTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGA 448
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IleAspLysValArgPheLeuGluGlnGlnAsnGlnV
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1465 438	AGAGAAAGTGACCATTCAAAACTGGTTCCGAGAGGCTGATTTTGCTAAAG 	1416 421
		415
1415	TTAACATTTGAAAAAGTTAAACATAATCTTGTCATCACGAATAGG	1366
14		406
406 1365	ATACCGCATTGGCCGCTATTGCTGGTGTGTGTGTCTGCTGCTGCAGCCG	396 1316
i iu	AGAATATCAGCGGGGAACAGGGACTATTGATGCATCGGTTACT	1266
	 TyrGluGluLeuGlnValThrValGlyArgHisGlyAspSerLeu	381
1265	rgserlyschuckunalactualaleuryrhisserlys TatgCCGAACGCTTTAAAAAATTAGGCTATGACGGAGATAAT	1216
1215	CATTTGCCGGTATTGCCGATAAATTTAATCATGCAAAAAGTTT	1166
368	eIleAlaGluValLysAlaGlnTyrGluGluIleAlaGlnA	354
1165	TGTG	1116
354	::: :::::: ::: ::: :::: ::: AsnValIleLeuSerMetAspAsnSerArgAsnLeuAspLeuAspSe	338
1115	TCTTACATTTTAGCCCAACGTGTTGCAGCAGGTTTATCTTCAACT	1066
337		329
1065	VaiLeuTyrASpAlaGlulleSer	321
1015	ACTTGTACTTGCAGATAAAAATGCTTCAAC	966
320	AsnGlnGluIleGluPheLeuLys	313
965	GGCCTTGGTTTAGATGTTATCTCAGGGCTA	916
312	laTyrMetIleLysValGluLeuGlnSerLysVal/	298
915	AAATA	866
298	gThrAlaAlaGluAsnAspPheValThrLeuLysLysAspVal	281
865	ATTAGTCAATTTGGTTCAAAACTACAAAATATCAA	825
281	::: ::: ValGluAspTyrLysLysLysTyrGluAspGluIleAsnLysA	267
824	ATTGAAAATATTGCTAATTCAGTAAAAACACTTGACGAATTTGGTC	775
266		259
774		731
258	gTyrLeuAspGlyLeuThrAlaGluArgThrSerGlnAsnSer	244
730		681
244	ProIleAsnLeuGluProIlePheGlnGl	228
680	AAAGCCAAAACTGTATTATCTGGCATTCAATCTATTTTAGGCT	637
227	:: ::: ;::::::: :::: ; ;:: ;: :::: ; ;::::::: ::::::::	211
636		599

A;Cross-references: GB:AE001863; GB:AE001825; NID:g6460670; PIDN:AAF12432.1; PID:g646072 A;Experimental source: strain R1 C;Genetics: A;Gene: DRA0353 A;Map position: 2 alignment_block: alignment_scores: Align seg 1/1 to: E75590 US-09-306-689-12 x E75590 Quality: Ratio: Percent Similarity: 237 221 964 205 988 155 138 819 125 108 721 714 600 ATTAGGTTCTGCCGAAAGC.....ATTGTACAAAATGCAA 634 188 172 ThrValAsnSerAlaValGlnAsnValLeuLysAsnIleThrGlnAlaSe 188 851 AAAATATCAAAGGCTTAGGGACTTTAGGAGACAAA..... 769 664 CAATCTATTTTAGGCTCAGTATTGGCTGGAATGGATTTAGATGAGGCCTT 550 TCCGCTCCACAAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAGC 91 75 GluGlnIleMetProPheValAsnAlaThrThrAspLeuGlnArgAlaLe 41 sLeuGlyLeuAlaGlyAlaLeuPhePheValProLeuValValAsnValT 25 SerLeuProArgAlaProArgTrpIleAspArgLeuSerValAlaGlnLy 41 aAspArgThrArgLeuSerAlaLeuValThrHisMetSerThrGluValG CTGGCCTTGGTTTAGATGTTATCTCAGGGCTATTATCGGGCGCAACAGCT 963 uAspAspLeuThrLeuAlaAlaSerAlaGlnThrSerProAlaAlaAlaA 108 hrAlaAlaAlaSerThrLeuMetArgIleValGlnProValAlaGlyAla AGCTAAA...AAAGTGGGTGCGGGTTTTGAATTGGCAAACCAAGTTGTTG 1042 GCACTTGTACTTGCAGATAAA......AATGCTTCAAC laAlaLeuGly...AspGlyLeuMetGlyLeuArgSerAsnLeuValGln ${\tt rSerLeuAspLeuGlyGlyGlnHisThrMetTyrLeuLeuGlnArgA}$CTTGATAAAG 913 | CTCAAAAATATC...... luArgTyrLeuAlaLeuProProSerGlyAspArgValSerSerTyrGly 171 gArgGluLeuArgGlnThrLeuGlnPheAlaAsnPheArgAlaGlnValG 155 TGAGCAAATTAGTCAA......TTTGGTTCAAAACTAC TCATTAATTGAAAATATTGCTAATTCAGTAAAAACACTTGACGAATTTGG rgGlnArgAlaGluGlnAlaLeuThrGlnLeuGlyAlaLeuLeuAspSer ..AACAGCAACCAACATGCTCTTGCTAAAGCTGGCTTGGAGCTAACAAAT 768 ACAGAAT.....GluAlaSerThrAsnProIleSerProLeuProGluIleAr 138 166.00 0.675 50.410 from: 1 Length: 488
Gaps: 25
Percent Identity: 23.361 to: 756 995 124 237 897 850 713 74 58 885 91

C;Species: Campylobacter fetus C;Date: 03-Nov-1995 #sequence_re C;Accession: A56143 R;DworKin, J.; Tummuru, M.K.R.; J. Bacteriol. 177, 1734-1741, 19	<pre>seq_documentation_block: surface-array protein home</pre>	sec name: pir2:A56143	1685 CATTTACCTCGTCT 16 :::::: 481 laAlaSerAlaSer 48	1635 TAGCAAAAATGTGACAAA :: 469ThrAs	1585 ACCCAAGATGAGCTATO	1561	1527 CGAGCGGATCACCTCAJ ::: 421 .GluargLeuGluSer	1477 TATAAAGCAACTAAAG ::: 412ArgThrAsnA	1427 CCATTCAAAACTGGTTO ::::: !! 399 alLeuThrSerSerPh	1377 AAAAGTTAAACATAAT(:::::::::::::::::::::::::::::::::	1333ATTGCTGGTGG	1313 TTAATACCGCATTGGCC :: 350 euIleThrAlaLeuAla	1263 AGCAGAATATCAGCGG 334 nAspGluTyrValArg	1216TATGCCGAACGCTT ::: 318 LeuTyrAlaGlnThrSe	1184 ATAAATTTAATCATGCA ::: :::::: 301 lySerThrSerGlnAlaLeu	1140 TGTTTCTCTTGCGATTAGCCCATTA ::: ::::::::: 284 tMetSerLeuValLeuGlyAsnLeuAr	1090 GCAGCAGGTTTATCTTO ::: 271 AlaArgAlaLeuSerSe	::: 1 ::: 254 lyGlnThrGlnGluAla
<pre>svision 03-Nov-1995 #text_ch Blaser, M.J. </pre>	ıpA2 - Campylobacter fetus (98	TAGCAAAATGTGACAAACAGCTTAGATAAGTTAATCTCATCTGTAAGTG :::: ! ::: 	ACCCAAGATGAGCTATCAAAAGTTGTTGATAACTATGAATTGCTCAAACA ::: :::::: ::: ThrGluAspIleLeuGlyAsnValValAspSerIleAsnLeuMet	.ATCGCAAAAGGTAACGGCAAAATT ::: ::: plleAlaGluGlyAspLeuThrLysArgGlyValVal	AGCGGATCACCTCAAAGCAAGTTGATGATCTT	ATAAAGCAACTAAAGATGAGAAAATCGAAGAAATCATCGGTCAAAATGG ::: :::: ::: ArgThrasnalaGluArgValGluGln	CCATTCAAAACTGGTTCCGAGAGGCTGATTTTGCTAAAGAAGTGCCTAAT ::::: :::	AAAAGTTAAACATAATCTTGTCATCACGAATAGCAAAAAAGAGAAAGTGA :::::::::: :: :: yAsnLeuAsnIleHisLeuProValThrThrSerAspGluLeuGlyV	ATTGCTGGTGGTGTGTCTGCTGCTGCAGCCGATTTAACATTTGA :::::::	TTAATACCGCATTGGCCGCT	AGAATATCAGCGGGGAACAGGGACTATTGATGCATCGGTTACTGCAA 	.TATGCCGAACGCTTTAAAAAATTAGGCTATGACGGAGATAATTTATT ::: ::: ::: uTyrAlaGlnThrSerAlaAlaLeuSerGlnGluGlyLysAsnPheGl	AAAAGTTTAGAGAGT ::::: ::::: LeuIleAspArgAsnLeuGlnLysIleAspArg	GCCATTAGCATTTGCCGGTATTGCCG::: ::: ::: 	CAGCAGGTTTATCTTCAACTGGGCCTGTGGCTGCTTTAATTGCTTCTAC ::: hargalaLeuSerSerGluMetGlnGlnLeuSerAsnMe	
nge 08-Oct-1999	strain 82-40 LP3)	-		1684 ·	1634 468	1584 453	1560 437	1526 420	1476 411	1426 399	1376 . 383	1332 366	1312 350	1262 334	1215 317	1183 301	1139 284	270

Title: A lipopolysaccharide-binding domain of the Campylobacter fetus S-layer protein Reference number: A56143; MUID:95204338
.;YGatus: prelininary ;Molecule type: DNA ;Residues: 1-1109 <dwo> ;Cross-references: GB:S76860; NID:9913763; PIDN:AAB33871.1; PID:g913764 ;Note: this gene appeared to be silent in strain 82-40 LP3 ;Genetics: ;Gene: sapA2</dwo>
lignment_scores: Quality: 165.00 Length: 672 Ratio: 0.493 Gaps: 34 Percent Similarity: 49.851 Percent Identity: 22.917
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396 TGAACAAGGTAATGGTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGG 445 :::: :::
446 GGATTGAGGTACAAAGAGAAGAAGAAGAATAATATTGCAACAGCTCAAACC 495
496 AGTTTAGGCACGATTCAAACCGCTATTGGCTTAACTGAGCGTGGCATTGT 545 ::: ::: ::: 73 SerIleAlaLeuGlyAsnThrSer 80
546 GTTATCCGCTCCACAAATTGATAAATTGCTACAGAAAACTAAAGCA 591 81AspValAspGlyIleAsnTyrTrpThrLysalaIleT 93
592GGCCAAGCATTAGGTTCTGCCGAAAGCATTGTACAAAATGCA 633 ::: :::::::::: 93 hrGlyGlyGluPheThrAspSerLysGlyAsnValIleSerValala 109
634 AATAAAGCCAAAACTGTATTATCTGGCATTCAATCTATTTTAGGCTCAGT 683 ::: ::: :::::::::: :: 110 SerLeuSerLysGlyAspLeuIleGlyAlametIleAsnSerme 124
684 ATTGGCTGGAATGGATTTAGATGAGGCCTTACAGA 718 :::: ::: ::
719 ATAACAGCAACCAACATGCTCTTGCTAAAGCTGGCTTGGAGCTA 762 ::::
763ACAAATTCATTAATTGAAAATATTGCTAATTCAGT 797 :::::: ::: :: 158 LeuAspGluGlyThrThrSerLysLeuIleSerGluIleasnSerAl 173
798 AAAAACACTTGACGAATTTGGTGAGCAAATTAGTCAATTTGGTTCAAAAC 847 :::: ::: :::::: 173 aSerAspLeuAspLysValLysSerGluIle
848 TACAAAATATCAAAGGCTTAGGGACTTTAGGAGACACACTCAAAAATATC 897
898 GGTGGACTTGATAAAGCTGGCCTT

371 1406 388 1456 402 1506 417 1551 434 451 1617	SpLysIleGluThrLeuAsnLeuAsnThrThrGlySerGlnSerPheVal GCAGCCGATTTAACATTTGAAAAAAGTTAAACATAATCTTGTCATCACGA :: ::::: SerAlaAspValAlaSerIleSerValLySGlyAsnAlaAsnLeuSerLe TAGCAAAAAAGAGAAAGTGACCATTCAAAACTGGTTCCGAGAGGCTGATT :: uAlaThrGlyAlaLySThrThrThrLeuAspAlaSerSerP TTGCTAAAGAAATGCCTAATTATAAAGCAACTAAAGATGAAAATCGAA ::::::: heGlyGlyAlaLeuAspAlaAspLeuSerThrSerAlaSerValThr GAAATCATCGGTCAAAATGGCGAGCGGATCACCTCAAAGCAAGTT :::	355 1357 372 1407 388 1457 402 1507 418 1552 434 451 1568
5006	CCGAACGCTTTAAAAAATTAGGCT ::::: lasspLysValLeuAspGlySerA TATCAGCGGGGAACAGGGACTATT ::: ::: :::AsnGlyValGlyAlaLys	1219 325 1269 341
291 1185 308 1218	GlyIleAspĠiyLeuGlnThrvaiAiaLe TACTGTTTCTCTTGCGATTAGCCCATTAGCATTTGCCGATTTGCCGAT. ::::::::::::::::::::::::::::::::::::	282 1137 291 1186 308
10 26 10 28	TTGTTGGTATATTA	1029 248 1055 265 1087
999 231 1028 248	CGGGCGCAACAGCTGCACTTGTACTTGCAGATAAAAATGCTTCAACAGCT:	950 221 1000 232
949 221	Thrile	922 204

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alignment_scores:
    Quality:
    Ratio:
    Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seq_documentation_block:
flagellin - Escherichia coli
C:Species: Escherichia coli
C:Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 26-Aug-1999
C:Accession: I41061; S47739
R:Zheleznaia, L.A.; Fedorrov, O.V.; Brik, A.F.; Matvienko, N.I.
Biokhimiia 59, 1621-1637, 1994
A;Title: Nucleotide sequence of the Escherichia coli B38 flagellin gene.
A;Reference number: I41061; MUID:95178623
A;Accession: I41061
A;Status: preliminary; translated from GB/EMBL/DDBJ
A.Molecyle type. DNA
                                                                                                                                                                                                                                                                                       C;Function:
A;Description: involved in bacterial motility and antigenicity
C;Superfamily: flagellin
                                                      alignment_block:
US-09-306-689-12 x I41061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seq_name: pir2:I41061
                                                                                                                                                                                                                                                                                                                                                                                          A;Gene: fliC
                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: EMBL:236877; NID:g535044; PIDN:CAA85351.1; PID:g535045
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
A; Residues: 1-565 < RES>
Align seg 1/1 to: I41061 from: 1 to: 565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1629 CAAACATAGCAAAAATGTGACAAAC...AGCTTAGATAAGTTAATCTCAT 1675
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1911 CGGCCTGCGTCCGGGTGGATCTC.....AGCATTGGAGCT 1945
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            575 laAsnAlaThrLysIleAspIleAsnAlaAlaLysAspThrValGlyLeu 591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              548 LysIleValAlaAspLysAlaThrGlu.....LeuTh 558
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                                                                                                                                     164.00
0.619
48.535
                                                                                                                                     Length:
Gaps:
Percent Identity:
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26
22.527
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1071	GTAATATTACCAAAGCCGTTTCTTC	1042
284	 	267
1041	GCGGGTTTTGAATTGGCAAACCAAGTTGI	$\bar{\Box}$
267	GCTRARAARGTGGG GTRARAARGTGGG	997 251
50	LysTyrThrTyrAsnAlaSerThrAsnAspPheThrThrGluAsnTh	234
	CAACA	982
234	 	217
981	AGCTGCACTTGTACTTGCAGAT	957
956 217	ATCTCAGGGCTATTATCGGGCGC :::::: :::::: SerSerAsnIleValValValThrThrLysPheAsnAlaLeuAspAlaAl	934 201
200	leSerAspLeuAlaAlaThrGlyA	184
933	CTCAAAAATATCGGTGGACTTGATAAAGCTGGCCTTGGTTT	884
184	TLeuGlyLeuAsnGlyPheAsnValAsnGlyLysGlyThrIleAlaAsnL	167
	lnThrIleThrIleAspLeuLysLysIleAspSerAspT	151
		852
150		134
852		838
134	A	118
118	hrasnSeraspSeraspLeuaspSerIleGlnaspGluI]	103
803	GAGCTAACAAATTCATTAATTGAAAATATTGCTAATTCAGT	754
753 102	ATGAGGCCTTACAGAATAACAGCAACCAACATGCTCTTGCTAAAGCTGGC::::: :::::	704 86
703 86	ATCTGGCATTCAATCTATTTAGGCTCAGTATTGGCTGGAATGGATTTAG :	65 4 72
72	snAlaAsnAspGlyI	56
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603	ATTGCTACAGAAAACTAAAGCAGGCCAAGCATTA 	569
568 44	TATTGGCTTAACTGAGCGTGGCATTGTGTTATCCGCTCCACAAATTGATA: :: :: :::::: :: :: ::	519 28
28	 IeAsnLysAsnGlnSerAlaLeuSerSerS	15
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C:Species: Homo sapiens (man)
C:Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 29-Oct-1999
C:Accession: 137984; $40307; $77921; $41161; B35494; I37943
R:Reis, A.; Hennies, H.C.; Langbein, L.; Digweed, M.; Mischke, D.; Drechsler Nature Genet. 6, 174-179, 1994
A:Title: Keratin 9 gene mutations in epidermolytic palmoplantar keratoderma A:Reference number: 137984; MUID:94214498
A:Accession: I37984
                                                                                                                                                                                                                                                                                                                                                          seq_name: pir2:137984
                                                                                                                                                                                                                                               keratin 9, type I, cytoskeletal - human
N;Alternate names: cytokeratin 9; scatter protein 60K chain, placental
                                                                                                                                                                                                                                                                                                       seq_documentation_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1624
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    snValLysIleThrPheAsnAsnGlyProLeuSerPheThrAlaSerPhe
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACTAAAGATGAGAAAATCGAAGAAATCATCGGTCAAAATGGCGAGCGGAT 1535
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                                                                                                                                                                                                                                                                                                                                                                                                             laIleGlnAsnArgLeuAspSerAlaValThrAsnLeu
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        preliminary; translated from GB/EMBL/DDBJ
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                                                                                                                                       Drechsler, M.; Schroc
                                                                                    (EPPK)
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A; Residues: 1-622 < RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: protein A; Residues: 'X', 450-465 < ROS>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 1-11, 'SR', 13-622 <LAW>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Langbein,
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A; Residues: 1-622 <LAN>
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166 CCGGGTGGATCT...CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGG
                                                                                                                                                                                                                                                                                                                                                    116 ACGGCCTGCGCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGT 165
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22 TCTCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGT.....TCTCA 65
                                                                              ySerArgGlyPheGly...GlyAlaSerGlyGlyGlyTyrSerSerSerG
                                                                                                                                       TTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATT
                                                                                                                                                                                                                                                                                                                                                                                                          rSerSerGlyTyrGly......GlyGlySerSerArgValCysGlyA 62
                                                                                                                                                                                       SerGlyGlyPheSerAlaSerSerLeuGlyGlyPheGlyGlyGl
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A;Cross-references: EMBL:Z29074; NID:g435475; PIDN:CAA82315.1; R;Rosen, E.M.; Meromsky, L.; Romero, R.; Setter, E.; Goldberg, Biochem. Biophys. Res. Commun. 168, 1082-1088, 1990
A;Title: Human placenta contains an epithelial scatter protein. A;Reference number: A35494; MUID:90267446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: EMBL:X75015; NID:g453154; PIDN:CAA52924.1; R;Langbein, L.; Held, H.W.; Moll, I.; Franke, W.W. Differentiation 55, 57-71, 1993 A;Title: Molecular characterization of the body site-specific ha;Reference number: 137943; MUID:94131202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          submitted to the EMBL Data Library, December 1993
A; Reference number: S41161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Molecule type: protein
A;Residues: 29-53;62-104;167-188;199-233;241-249;295-362;374-430;450-480;579-604 <LAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:Z29074; NID:g435475; PIDN:CAA82315.1; PID:g435476
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60 TATCCTCTATATTTCCCCCAAAATTACCAATTACGAACAAGGTAACTAAGGTAACTA 10 GTTTACAGGATTTAGTCAAAGCGGCCCGAAGAGTTGGGGATTGAGGTACAA 11 JAASpGlyGly11eLeuThrAlaASTGTULySSerThrMet 156 60 AGAGAAGCGCAATAATTACTGCAACAGCTCAAACCAGTTTAGGCACGAT 57 GLIGLluemssniserAgtLeuAlaSser
10 GTTTACAGGATTTAGTCAAAGCGGCCGAAGAGTTGGGGATTGAGGTACAA 459
4 3 1yASPG1yG1y11eleuThrAlaASHG1uLyS
10 TCAAACCGCTATTGGCTTAACTGAGCGTTGGCATTGTGTTATCCGCTCCAC 559 66 AAATTGATAAATTGCTACAGAAAACTAAAGCAAGAGCAATAGGTTCT 60 AAATTGATAAATTGCTACAGAAAACTAAAAGCAAGAGCAATAGGTTCT 61 CTAAAATTGATAAATTGCAAAAATGCAAAAACTAAAAGCAATAAAACTAGAATAAAACACTAGAATTAACAGCAACAAATTAACAACATAGCAACAAATTGCTAAAAACACTTGAAAACTATGAAAAACACTTGAAAAACACTTGAAAAAACACTTGAAAAAAAA
66 AAATTGATAAATTGCTACAGAAAACTAAAGCAAGCAAGCA
60 AAATTGATAAATTGCTACAGAAAACTAAAGCAGGCCAAGCATTAGGTTCT 609 :::! ::: 66 YILEWASPLYSVA1
10 GCCGAAAGCATTGTACAAAATGCAAAATGAAAGCCAAAACTGTATTATCTGG 659
76 AlaAsnAsn
60 CATTCAATCTATTTAGGCTCAGTATTGGCTGGAATGGATTAGATGAGG 709 79
10 CCTTACAGAATAACAGCAACCAACATGCTCTTGCTAAAGCTGGCTTGGAG 11 CCTTACAGAATAACAGCAACCAACATGCTCTTGCTAAAGCTGGCTTGGAG 12 ::: ::::::::::::::::::::::::::::::::
10 CCTTACAGAATAACAGCAACCCAACCCACAGCTCTTGCTAAAGCTTGCTT
60 CTAACAAATTCATTAATTGAAAATATTGCTAATTCAGTAAAAACACTTGA 809 55AlaIleGlnLysAsnTyrSerProTyrTyrAsnThrIleAs 208 10 CGAATTTGGTGAGCAAATTAGTCAATTTGGTTCAAAACTACAAAATATCA 859 1::::::::::::::::::::::::::::::::::::
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08 paspleuLysaspGlnIleValaspLeu
60 AAGGCTTAGGACATTTAGGACACAACTCAAAAATATCGGTGGACTTGAT 1 :::: ::::: :::::
10 AAAGCTGGCCTTGGTTTAGATGTTATCTCAGGGCTATTATCGGGCGCAAC 959 ::::: :::::
30 ASNTHATGMETTHILEUASPASPPHEATG
60 AGCTGCACTTGTACTTGCAGATAAAATGCTTCAACAGCTAAAAAAGTGG 100 :::::::::::::::::::::::::::::::::::
10 GTGCGGGTTTTGAATTGGCAAACCAAAGTTGTTGGTAATATTACCAAAGCC.105
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GCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCG 	AGATTGGAGCTACGGCCTGCGTCCGGGTGGATCTCAGCATTGGAGCTACG :::::::::	GGCTCTAGCCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTAGCCA :::::: :::	TGCGCCCTGGCAGCGGTTCTCAAGATTGGAGCTACGGCCTGCGTCCGGGT	TTTGCTAGGGGATCTCAGCATTGGAGCTACGGCC ::: ::::: aGlyLysIleGlyLeuGlyGlyArgGlyGlySerGlyGlySerTyrGly.	CTTCAA ;;; TyrHisAsnLeuLeuGluGlyGlyGlnGluAspPheGluSerSerGlyAl	ATTAGTGGCTCCAACTTCAATGTTGGATCAAAGTTTATCTTCT : ::::: ! substitution	TGCATTTACCTCGTCTAATGATTCGA : ::: uAlaGlnIleThrAspValArgGlnGluIleGluCysGlnAsnGlnGluT	GTGACAAACAGCTTAGATAAGTTAATCTCATCTGTAAG :::::::::::::::::::::::::::::::::	AGCTATCAAAAGTTGTTGATAACTATGAATTGCTCAAACATAGCAAAAAT::: :::	TGATCTTATCGCAAAAGGTAACGGCAAAATTACCCAAGATG :::	ATCATCGGTCAAAATGGCGAGCGGATCACCTCAAAGCAAGTTGA :::::::::: ::::: GluValSerSerGlyGlnGluValClnSerSerAlaLysGluValTh	CTAAAGAAGTGCCTAATTATAAAGCAACTAAAGATGAGAAAATCGAAGAA	CAAAAAAGAGAAAGTGACCATTCAAAACTGGTTCCGAGAGGCTGATTTTG :::: ::::: nGluTyrGluGlnLeuIleAlaLysasn	GCCGATTTAACATTTGAAAAAGTTAAACATAATCTTGTCATCACGAATAG	CAATTAATACCGCATTGGCCGCTATTGCTGGTGGTGTGTGT	ATTAGCAGAATATCAGCGGGGAACAGGGACTATTGATGCATCGGTTACTG ::: :::::::::::::::::::::::::::::::	GAGAGTTATGCCGAACGCTTTAAAAAATTAGGCTATGACGGAGATAATTT::::::::::
1998 550	1948 534	1898 517	1848 501	1798 485	1764	5 7	1708 436	1682 419	1644 402	159 4 386	1553 370	1509 353	1459 337	1409 327	1359 315	1309 312	1259 302

1178 TTGCCGATAAATTTAATCATGCAAAAAGTTTAGAGAGTTATGCCGAA 1224	
1128 AATTGCTTCTACTGTTTCTCTTGCGATTAGCCCATTAGCATTTGCCGGTA 1177 :::: :::: 1165 tPheAlaSerSerLeuMetGlnLeuThrThrGlnPheMetThrAlaSerI 1182	373 CCCCAAAATTACCAATATGAT.ACTGAACAAGGTAATGGTTTACAGGATT 421
	323 GTGGATCTAGCTTCCCAAAAACTGGGGCAAAAAAAATTATCCTCTATATT 372 ::::::
TTGTTGGTAATATTACCAAAGCCGTTTCTTCTTACATTTTAGCCAACGT	273 CCTGCGCCCTGGCAGCCAAGATTGGAGCTACGGCCTGCGTCCGG 322
IGCTTCAACAGCTAAAAAAGTGGGTGCGGGTTTTGAATTGGCAAACCAAG	223 TGGAGCTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGG 272 ::::: ::: 883GlyIleAlaSerVal 887
GTACTTGCAGATAAAAA ::: ThrThrLeuAlaThrGlnLeuThrThrLeuThrThrSerPheThrMetMe	173 GATCTCAGCATTGGAGCTACGGCCCTGCGCCCTGGCAGCGGTTCTCAAGAT 222
GGCTATTATCGGGCGCAACAGCTGCACTT	123 GCGCCCTGGCAGCGAGCTAGCCTACGGCCTGCGTCCGGGTG 172 :::::: ::: 861 hralaLeuSerGlyValalaSerIle
898GGTGGACTTGATAAAGCTGGCCTTGGTTTAGATGTTATCTCAG 940 ::: ::: ::: ::::: :	82 CTGCGTCCGGGTGGCTCTAGCCCAGCATTGGAGCTACGGCCT 122 ::: ::: :::: ::: 844 aGlyMetAlaTleAlaThrAlaAlaMetGlyIleGlyThrAlaIleSerT 861
	32 GAAGTACGGCCTGCGCCTGGCAGCGGTTC :::::::: :::::::::::::::::
818 GTGAGCAAATTAGTCAATTTGGTTCAAAACTACAAAATATCAAAGGC 864 	alignment_block: US-09-306-689-12 x T13634 Align seg 1/1 to: T13634 from: 1 to: 1510
780 AAATATTGCTAATTCAGTAAAAACACTTGACGAATTT	Quality: 163.00 Length: 681 Ratio: 0.477 Gaps: 29 Percent Similarity: 50.220 Percent Identity: 21.586
730 CAACATGCTCTTGCTAAAGCTGGCTTTGGAGCTAACAAATTCATTAATTGA 779 ::: :: ::: ::: 1008 SeralaThrSeralaValSerGlyLeuThrLeuPheSerSerThrIleTh 1024	A; Experimental source: specific_host Streptococcus thermophilus alignment scores:
683 TATTGGCTGGAATGGATTTAGATGAGGCCTTACAGAATAACAGCAAC 729 :: ::: :::::::::::::::: 991 laGlyAlaGlyMetAlaGlnLeuGlyAsnGlyMetSerLysValSerAla 1007	A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: DNA A;Residues: 1-1510 <luc> A;Cross-references: EMBL:AF057033; NID:q3320432; PID:q3540284; PIDN:AAC34411.1</luc>
651 ATTATCTGGCATTCAATCTATTTTAGGCTCAG 682	-73, 1998 uctural gene module in er: Z17696; MUID:983211634
619 ATTGTACAAAATGCAAAATAAAGCCCAAAACTGT 650	<pre>phage phi-Sfill ence_revision 13-Aug-1999 #text_</pre>
572 TGCTACAGAAAACTAAAGCAGGCCAAGCATTAGGTTCTGCCGAAAGC 618 :::	<pre>seq_name: pir2:T13634 seq_documentation_block: probable minor tail protein qp1510 - Streptococcus phage phi-Sfill</pre>
41A	:::
TGGCTTAACTGAGCGTGGCATTGTGTTATCCGCTCCACAAATTGATAAAT	2063 ACGGCCTGCGTCCGGGTGGATCC 2085
472 AATAATATTGCAACAGCTCAAACCAGTTTAGGCACGATTCAAACCGCTAT 521 :::::: ::::::::::::::::::::::::	2020AGCTACGGCCTGGCAGCGGTAGCCAAGATTGGAGCT 2062 :::
422 TAGTCAAAGCGGCCGAAGAGTTGGGGGATTGAGGTACAAAGAGAAGAACGC 471 ::::: 927 alleu	1999 GGTGGCTCTAGCCAGCATTGG

	1875 1360
TGGAGCTACGGCCTGCGTCCGGGTGGCTTAGCCAGCATTGGAGCTACCG	1825 1347
GATCTCAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGAT	1775 1338
TCCAACTTCAATGTTGGATCAAAGTTTATCTTCTCTTCAATTTGCTAGGG	1725 1322
TCTGTAAGTGCATTTACCTCGTCTAATGATT ::: ::: ::: SerValGlyAlaValSerSerAlaValAspS	1675 1308
TGCTCAAACATAGCAAAAATGTGACAAACAGCTTAGATAAGTTAATCTCA ::::: :::: ::::	1625 1298
CGGCAAAATTACCCAAGATGAGCTATCAAAAGTTGTTGATAACTATGAAT :	1575 1291
GGCGAGCGGATCACCTCAAAGCAAGTTGATGATCTTATCGCAAAAGGTAA ::::: ::::::::::::::::::::::::	1525 1276
ATTATAAAGCAACTAAAGATGAGAAAATCGAAGAAATCATCGGTCAAAAT ::: cralametSerSerAlaalaGlyGlnValGlnSerAlaMetGlnArgMet	1475 1259
GACCATTCAAAACTGGTTCCGAGAGGCTGATTTTGCTAAAGAAGTGCCTA	1425 1242
GAAAAAGTTAAACATAATCTTGTCATCACGAATAGCAAAAAAGAGAAAGT	1375 1235
TGGCCCCTATTGCTGGTGGTGTGTGTGCTGCTGCAGCCGATTTAACATTT :::::::::::::: :::: :::	1325 1219
GCGGGGAACAGGGACTATTGATGCATCGGTTACTGCAATTAATACCGCAT	1275 1210
CGCTTTAAAAAATTAGGCTATGACGGAGATAATTTATTAGCAGAATATC:::	1225 1199
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Title: Perfect score:

Run on:

protein -

Scoring table:

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20, Appl 228, Appl 29, Appl 5457037

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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US-08-387-156-10
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US-08-1694-865-16
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US-08-694-865-4
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US-08-387-156-4
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/960
FILING DATE: 14-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION UMBER: US 07/779
FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: ROBINS, ROBERTA L.
REGISTRATION NUMBER: 33/208
REFERENCE/DOCKET NUMBER: 9001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-899
TELEPAX: (415) 327-3231
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: AG SETION
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    Query Match
Best Local Similarity
Matches 49; Conserv
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APPLICANT: REDMOND, MARK J.
APPLICANT: HUGHES, HUW P.A.
TITLE OF INVENTION: GORH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
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CURRENT APPLICATION DATA:
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CITY: PALO ALTO
STATE: CALIFORNIA
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OPERATING SYSTEM: PC-DOS/MS-DOS
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635 BRYANT STREET
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US-07-690-983D-24
US-07-690-983D-28
US-08-446-692-29
US-08-48-351A-29
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US-08-188-223-5
US-08-968-466-5
US-08-446-652-28
US-08-446-652-16
US-08-446-692-16
US-08-448-351A-16
US-08-448-351A-16
US-08-448-351A-16
US-08-448-351A-16
US-08-448-351A-16
US-08-448-351A-24
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                         Score 290; DB 1;
Pred. No. 5.3e-27;
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      Mismatches
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                                            Length 49;
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                                                                                                                                                                                                                            Sequence 4, Application Patent No. 5969126
                                                                                                                                                                                                                                                                                                                                                                                                     Matches
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Best Local Similarity
                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                 APPLICANT: POTTER, ANDREW A. APPLICANT: REDMOND, MARK J. APPLICANT: HUGHES, HUW P.A. TITLE OF INVENTION: GRRH-LEUK NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 901
TELECOMMUNICATION INFORMATION:
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ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: POTTER, ANDREW APPLICANT: MANNS, JOHN G.
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CITY: PALO ALTO
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                  COUNTRY:
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                                    STATE:
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                                PALO ALTO .
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)GY: linear
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(415)327-3231
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                  UNITED STATES OF AMERICA
                                                                                      REED & ROBINS
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Pred. No. 5.3e-27;
Mismatches 0;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                         GENERAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 07/
FILING DATE: 14-CCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/
FILING DATE: 16-CCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: DEPENT DESPENT
                                                                               COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
                                                                                                                                         ZIP: 94301
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 536
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US 08/387,156
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/694,865
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ADDRESSEE: REED & ROBINS LLP
STREET: 285 HAMILTON AVENUE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: GNRH-LEUKOTOXIN CHIMERAS NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: protein
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                                                                                                                                                                                                                               STREET: 200 CTTY: PALO ALTO
                                    FILING DATE: CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US 0 FILING DATE: 10-FEB-1995
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OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                      APPLICATION NUMBER: US/09/124,491
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                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09124491
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GY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     49 amino acids
                                                                                                                                                                                                                                                                                                                                                     POTTER, ANDRE
                                                                                                                                                                                                              USA
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                                                                                                                                                                                                                                                                                                                                                                     ANDREW A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
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                                                                                                                                                                                                                                                                 SUITE 200
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                                                                                                         Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 49;
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PRIOR APPLICATION DATA:

FILING DATE:

10-FEB-1995

US 08/387,156

APPLICATION NUMBER: 0

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GENERAL INFORMATION:
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TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO: 4:
                   TELEFAX: (415) 327-32 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 0 FILING DATE: 16-OCT-1991 ATTORNEY/AGENT INFORMATION:
                                                                                                             APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
ATTORNEY_AGENT INFORMATION:
NAME: ROBINS, ROBERTA L.
                                                                                                                                                                          APPLICATION NUMBER: US 07/960,932 FILING DATE: 14-OCT-1992 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                     OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 9001-0016.22
TELECOMMUNICATION INFORMATION:
SEQUENCE CHARACTERISTICS:
                                                              TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: GNRH-LEUKOTOXIN CHIMERAS
                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/387,156 FILING DATE: 10-FEB-1995 CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
nes 49; Conserv
                                                                             REGISTRATION NUMBER: 33,;
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                     COMPUTER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET:
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                                                 TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    e 10, cr. 5723129
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/08387156
                                                                                                                                                                                                                                                                                                                                                                                                                                               635 BRYANT STREET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTTER, ANDREW A. REDMOND, MARK J. HUGHES, HUW P.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; ilarity 100.0%; Conservative
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                                               (415) 617-8999
                                                                                  NFORMAL L. ROBERTA L. 33,208
                                                                                                                                                                                                                                                                                                                                                      Floppy disk
           327-3231
30: 10:
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                                                                               9001-0016.21
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Pred. No. 5.3e-27;
); Mismatches 0;
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GENERAL INFORMATION:
APPLICANT: POTTER,
APPLICANT: REDMOND
APPLICANT: HUGHES,
                                                    Sequence 10, App.:
Sequence 10, App.:
Sequence 10, App.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 100.0%;
Matches 49; Conservative
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                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                    Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/694,865 FILING DATE: 09-AUG-1996
                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
TELEFAX: (415)327-3231
                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS
REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              494 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                    LENGTH:
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                                                                                                                                                                                                       ch 100.0%;
1 Similarity 100.0%;
49; Conservative 0
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5837268
                                                                                                                                                                                                                                                                                                                         amino acid
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                                                                        Application US/08878748
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                                                                                                                                                                                                                                                                                                                                       544 amino acids
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               REDMOND, MARK J.
                             POTTER, ANDREW A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E: Floppy disk
IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                             linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                           38,548
                                                                                                                                                                                                      Score 290; DB 2; I
; Pred. No. 8.1e-26;
'''smatches 0;
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Pred. No. 8.1e-26;
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GnRH-LEUKOTOXIN CHIMERAS

CORRESPONDENCE ADDRESS NUMBER OF SEQUENCES:

ADDRESSEE:

CITY: PALO ALTO

635 BRYANT STREET

REED & ROBINS

COUNTRY:

CALIFORNIA : UNITED STATES OF AMERICA

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; TOPOLOGY: linear; MOLECULE TYPE: protein US-08-878-748-10
                                                                                                                                                                                                                                                                                                                                                                                                            US-09-124-491-10
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Best Local Similarity
Matches 49; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NFORMATION FOR SEQ ID NO:
                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: ROBINS, ROBERTA L.
REGISTRATION NUMBER: 33,208
REGISTRATION NUMBER: 9001-0016.21
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
TELEFAX: (415) 327-3231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                   APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GARH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 07/779,171 FILING DATE: 16-OCT-1991 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
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PRIOR APPLICATION NUMBER: US 08/387,156
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APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
                                                                                                                                                                                           STREET: 285 HAM.
CITY: PALO ALTO
APPLICATION NUMBER:
                                                                                                                                                                             STATE:
                                                                                                                                   ZIP: 94301
                                                                                                                                                       COUNTRY:
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                                                                                                                                                                                                                 285 HAMILTON AVENUE, SUITE 200
                                                                                                                                                           USA
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     US/09/124,491
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Pred. No. 8.1e-26;
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; TOPOLOGY: 1i
; MOLECULE TYPE:
US-09-124-491-10
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Best Local S
Matches 49
CLASSIFICATION: 424
ATTORNEY AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 9001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3331
INFORMATION FOR SEQ ID NO: 16:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 16, Application US/08694865 Patent No. 5837268 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
TELEPAX: (415)327-3231
INFORMATION FOR SEQ ID NO: 10:
                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: PATENTIA Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION UMMERE: US/08/694,865
FILING DATE: 09-AUG-1996
                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G. TITLE OF INVENTION: GRRH-LEU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 1 FILING DATE: 10-FEB-PRIOR APPLICATION DATA:
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FILING DATE: 14-OCT-
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 1
FILING DATE: 09-AUG-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                494 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG 542
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CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                     STATE:
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                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 544 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 290; DB 3; 100.0%; Pred. No. 8.1e-26; Live 0; Mismatches 0;
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9001-0016.22

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                                                                                                                              ; MOLECULE TYPE: protein US-09-124-491-16
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US-09-124-491-16

// MOLECULE TYPE: protein
US-08-694-865-16
                                                   Matches
                                                                                 Query Match
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Best Local Similarity
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                                                                                                                                                                                                                            TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 699 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: I
FILING DATE: 14-OCT-
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                     FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GRH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
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CITY: PALO ALTO
                                                                                                                                                               TOPOLOGY:
                                                                  Local
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                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                     NAME: MCCRACKEN, THOMAS P.
                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US 07/779,171
                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
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QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG 49
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o. 6022960
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                                                 1 Similarity
49; Conser
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Pred. No. 1.1e-25;
                                                               Score 290; DB 3; Pred. No. 1.1e-25;
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                                                Mismatches
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US-08-694-865-8
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                                                                                                                                                       Patent No.
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                                                                                                                                       GENERAL INFORMATION:
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APPLICANT:
                                NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS LLP
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0:
FILING DATE: 16-OCT-1991
ATTORNEY/AGENT INFORMATION:
                                                                                 TITLE OF INVENTION:
                                                                                                   APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 977 amino acids
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TELEPHONE: (415) 617-8999
TELEFAX: (415) 327-3231
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APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
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MEDIUM TYPE: Floppy disk
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                                                                                                                                                                                                                                                         927 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG 975
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STREET: 285 HAMILTON AVENUE, SUITE 200 CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: ROBINS, ROBERTA L. REGISTRATION NUMBER: 33,208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 424
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                                                                                                                                                                                                                                                                           1 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG 49
                                                                                                                                                                                                                                                                                                                                           Local
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49; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REDMOND, MARK J. HUGHES, HUW P.A.
                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PatentIn Release #1.0, Version #1.25
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                                                                                 GnRH-LEUKOTOXIN CHIMERAS
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Pred. No. 1.6e-25;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                       Length 977;
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COMPUTER READABLE FORM:

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COUNTRY:

USA

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MEDIUM TYPE:

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Patent No. 5969126
GENERAL INFORMATION:
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Best Local :
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                                                                                                                                                                                               COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/878,748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: GORH-LEUKOTOXIN CHIMERAS NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 977 amino acids
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TELECOMMUNICATION INFORMATION:
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ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P
                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/779,171
FILING DATE: 16-OCT-1991
                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                 ATTORNEY/AGENT INFORMATION;
                                                                                                                                                 CLASSIFICATION: 536
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
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                                                                                   FILING DATE:
                                                                                                   FILING DATE: 10-FE APPLICATION NUMBER:
                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                     APPLICATION NUMBER: US/0 FILING DATE: 19-JUN-1997
                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                               CITY: PALO ALTO
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ROBINS,
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                                                                                                                                                                                                                                                                                                                                            UNITED STATES OF AMERICA
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                                                                               10-FEB-1995
UMBER: US 07/960,932
14-OCT-1992
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Pred. No. 1.6e+25;
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; TOPOLOGY: 1:;; MOLECULE TYPE: US-08-878-748-8
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Best Local (
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                                                                                                TELEFAX: (4
INFORMATION FOR
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APPLICATION NUMBER: US 07/960,932
FILING DATE: 14-OCT-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS LLP
STREET: 285 HAMILTON AVENUE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REGISTRATION NUMBER: 33,208
REFERENCE/DOCKET NUMBER: 07
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
                                                                                                                                              REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
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                 MOLECULE TYPE:
                                                                               SEQUENCE CHARACTERISTICS:
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ATTORNEY/AGENT INFORMATION:
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APPLICATION NUMBER: US 0
FILING DATE: 10-FEB-1995
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                              TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                 APPLICATION NUMBER: US 07/779,171 FILING DATE: 16-OCT-1991
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                                                                                                  SEQ ID NO:
                                                                                                                                 (415)327-3400
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RESULT 15
US-07-690-983D-45
; Sequence 45, Application US/07690983D
; Patent No. 5403586
; Patent TYPOPMATTON:
Search completed: March 2, 2001, 10:54:37 Job time: 602 sec
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                                                                                                                                                                                                                                               ; LENGTH: 44 amino acid
TYPE: amino acid
: TOPOLOGY: linear
; MOLECULE TYPE: protein
US-07-690-983D-45
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Best Local Similarity
Matches 49; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 435

PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/AU90/00373

FILING DATE: 24-AUG-1990
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 16786/148 CHAC
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                    TELEFAX: (202)672-5399
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
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APPLICANT: RUSSELL-JONES, Gregory J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/690,983D
FILING DATE: 25-JUN-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: HM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: STEWART, Andrew G.
APPLICANT: TSONIS, Con G.
TITLE OF INVENTION: FUSION PROTEINS
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 3000 K Street, CITY: Washington, D.C.
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Copyright (c) 1993 - 2000 Compugen Ltd.
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Q9WTY8
Q9U617
Q9VTR6
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097643
Q13344
Q9L0Z0
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Q9sui2 arabidopsis
Q04095 arabidopsis
Q22739 caenorhabdi
Q16273 homo sapien
Q9p2z6 homo sapien
                                             Q13344 homo sapien
Q910z0 streptomyce
057480 gallus gall
Q9tsi macaca mula
097655 macaca mula
Q9xill arabidopsis
                                                                                                     000509 homo sapien
Q9m815 arabidopsis
O97643 lama glama
                                                                                                                                                    Q9pt52 agkistrodon
Q9wty8 rattus norv
Q9u617 drosophila
                                                                                                                                           Q9vtr6 drosophila
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Casals atapidobsis	Q9rxc3 deinococcus	Q9iar4 brachydanio	O86520 streptomyce	P97406	Q9wc40	081761	086585	Q9m2f9 arabidopsis	Q9y5h6 homo sapien	Q9ss41	Q9y126	Q9z201	077072 eisenia foe	Q9pvf5	Q22667 caenorhabdi	Q9u9k	Q9s1g9 <i>i</i>	Q9sy	Q9prh0	Q9nb54 dreissena p	Q9xil0 arabidopsis	Q9ujn4	O95913 homo sapien	048709 arabidopsis	096500 blaberus

ALIGNMENTS

ACCOMENS TO THE PROPERTY OF TH RESULT Q9PT52 Query Match Best Local Similarity Matches 26; Conser PROSITE; PS00263; NATRIURETIC_P CHAIN 31 41 BL/ CHAIN 49 59 LE CHAIN 67 77 PO CHAIN 85 95 PO CHAIN 103 113 PO CHAIN 117 127 PO CHAIN 117 127 PO CHAIN 117 127 PO CHAIN 242 263 CN Q9PT52; 01-MAY-2000 (TrEMBLrel. 13, Created) 01-MAY-2000 (TrEMBLrel. 13, Last sequence update) 01-JUN-2000 (TrEMBLrel. 14, Last annotation update) BPP-CNP PRECÜRSOR HOMOLOG. Agkistrodon halys blomhoffi (Mamushi) (Gloydius blomhoffii). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea; Viperidae; Crotalinae; Agkistrodon. CHAIN SEQUENCE "Agkistrodon blomhoffi cDNA for BPP-CNP precursor homolog."; Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases. EMBL; ABO20810; BAA36953.1; . INTERPRO; IPR000663; PFAM; PF00212; ANP; 1. PRINTS; PR00710; NATPERTIDES. Murayama N.; SEQUENCE FROM N.A. TISSUE-VENOM GLAND; NCBI_TaxID=61300; Q9PT52 263 AA; Conservative PRELIMINARY; 263 27339 32.9%; 41.3%; ¥ 0, C_PEPTIDE; 1. BLOMHOTIN. POTENTIATOR A. LEU3-BLOMHOTIN. POTENTIATOR C. POTENTIATOR B. POTENTIATOR B. POTENTIATOR B. POTENTIATOR B. POTENTIATOR E. CNP-22. Score 95.5; DB 1 Pred. No. 0.0024; PRT; 407BA9A572BF5FC8 CRC64; Mismatches 263 Ā DB 13; 22; Length Indels 263; 15; Ga

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1 QHWSYGLRPGSG-----SQDWSYGLRPGGS-----SQHWSYGLRPGSG-----SQDWSYG QQWSQGRPPGPPIPRLVVQQWSQGLPPGPPIPRLVVQQWSQGLPPGPPIPPLVVQQWSQG

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Query Match
Best Local Similarity
Matches 22; Conser
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Best Local
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Q9U617;
01-MAY-2000
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                                                                                                                                                               Submitted (NOV-1999) to the EMBL/GenBank/DDBJ EMBL; AF203342; AAF13280.1; -. SEQUENCE 1729 AA; 164661 MW; DA9B1B7FAB5C
                                                                                                                                                                                                                                                           Chartier A., Astier M., Zaffra "Characterization of an extrac expressed in the basal lamina melanogaster.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INTERPRO; IPR000822; -. PFAM; PF00096; zf-C2H2; 2. PFAM; PF00051; BTB; 1. PF00651; BTB; 1. PROSITE; PS00028; ZINC_FINGER_C2H2; UNKNOWN_1. PROSITE 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACC element of the gastrin promote J. Biol. Chem. 274:8123-8128(1999). EMBL; AF091457; AAD22522.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1999
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                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-OREGON R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PERICARDINE
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INTERPRO; IPRO00210; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tillotson L.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE=99175194;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus norvegicus (Rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=7227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ephydroidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           626
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3 WSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRP
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OV-1999 (TrEMBLrel. 12,
CT-2000 (TrEMBLrel. 15,
FINGER PROTEIN RIN ZF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FKYGLMPGT-SSDFKYGLLP-STSNDFKYGLLPGA-PNDFKYGLLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
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      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (TrEMBLrel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Drosophilidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PubMed=10075714;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chordata;
Rodentia;
                                 27.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   32.6%;
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15,
                                                                                                                                                                                                                                                                                         Zaffran S., Semeriva M., Gratecos
extracellular matrix component sp
lamina of the dorsal vessel in Dro
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Pred. No. 0.00
7; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E4F48AB2720676C1 CRC64;
      Mismatches
                                                                                                                                                                  DA9B1B7FAB5CDEDB
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                                     0
                                 DB 5;
0.59;
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                                                             Length 1729;
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5 YGLRPGSGSQDWSYGLRPG---

-GSSQHWSYGLRPGSGSQDWS----

15;

Indels

11;

Gaps

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-YGLRPG 49

Similarity

Conservative

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RESULT
Q9VTR6
ID Q9
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RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler P.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C. Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Downes M., Dugan Rocha S., Dunkov B.C., Dunn P.,
RA Cherry J.M., Evangelista C.C., Ferraz C., Ferrara S., Fleischmann W.,
RA Dodson K.J., Evangelista C.C., Ferraz C., Ferrara S., Fleischmann W.,
RA Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA Dodson K.J., Evangelista C.C., Ferraz C., Ferrara M.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Melson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Palazzolo M., Pitman G.S., Pan S., Pollard J., Puri Y., Reese M.G.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA Shue E., Spradling A.C., Stapleton M., Strong R., Sun E.,
RA Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao O.A.,
RA Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao O.A.,
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Q9VTR6;
01-MAY-2000
                                                                                                                                                                                                                                  Williams S.M., Woodage T., Worley K.C., Wu D., Yang Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zheng X.H., Zhong F.N., Zhong W., Ly Zhu S., Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.; "The genome sequence of Drosophila melanogaster."; Science 287:2185-2195(2000).

SCIENCE 287:2185-2195(2001).
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Pterygota; Neoptera; Endopterygota; Dip
Ephydroidea; Drosophilidae; Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda;
Pterygota; Neoptera; Endopterygota; Diptera; Brachyce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-OCT-2000 (Tr
CG5700 PROTEIN.
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                                                                                                                                                                                                            FBgn0036231;
                                                                                                                                                                            1039 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (TrEMBLrel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                27.88;
                                                                                                                                                                            102635 MW;
                                                                                                                                                                                                            CG5700.
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15,
Score 80.5; Di
Pred. No. 0.4;
6; Mismatches
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                                                                                                                                                                            6A710871139BD01F CRC64;
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                                                                       DВ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Yang S.,
                                                                    Length 1039;
                                                                                                                                                                                                                                                                                                                                                                                                                  Zhao
                                                                                                                                                                                                                                                                                                                                                                                         Zhu
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Smith H.O.,
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Best Local S
Matches 18
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01-JUN-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
PUTATIVE PHOSPHATIDYLINOSITOL-4-PHOSPHATE 5-KINASE.
                                                                                                              Gualandi G., Frezza D., Scotto A., I
Fruscalzo A., Calef E.;
"Integration of an Epstein-Barr viru
encoding immunoglobulin heavy-chain
                                                                                                                                                                                                                                                                01-JUL-1997 (TrEMBLrel. 04, Created)
01-AUG-1998 (TrEMBLrel. 07, Last sequence up
01-NOV-1998 (TrEMBLrel. 08, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Haan Ronning C.M., Koo H., Fujii C.Y., Utterback T.R., Barns' Bowman C.L., White O., Nierman W.C., Fraser C.M.;
"Arabidopsis thaliana chromosome III BAC F17A17 genomic Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases EMBL; AC013483; AAF21206.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Viridiplantae; Embryophyta; Tracheo Magnoliophyta; eudicotyledons; core eudicots; Brassicales; Brassicaceae; Arabidopsis.
SEQUENCE FROM N.A. TISSUE-PLACENTA, I
                                               TISSUE-PLACENTA, Gualandi G.;
                                                                                                                                                                                                                      Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                  000509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INTERPRO; IPR002498; -.
PFAM; PF01504; PIP5K; 1.
PROSITE; PS00639; THIOL_PROTEASE_HIS; UNKNOWN_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-CV.
                                     Submitted
                                                                                           Gene 166:221-226(1995)
                                                                                                       line.
                                                                                                                                                              TISSUE-PLACENTA, AND PBMC;
MEDLINE-96125193; PubMed=8543165;
                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                         HYPOTHETICAL
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                                                                       SEQUENCE FROM N.A.
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  PBMC;
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                                                                                                                                                                                                                     Craniata; V
Catarrhini;
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chain alpha
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dicots; Rosidae;
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Best Local S
Matches 23
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                                                                                                                                                                                                                                                                                                                    Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Ronning C.M., Koo H., Fujii C.Y., Utterback T.R., Ba Bowman C.L., White O., Nierman W.C., Fraser C.M.; "Arabidopsis thaliana chromosome I BAC T7P1 genomic Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databa EMBL; AC018908; AAF27664.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-CV. COLUMBIA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Viridiplantae; Embryophyta; Trache Magnoliophyta; eudicotyledons; core eudicots; Brassicales; Brassicaceae; Arabidopsis.
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Frezza D.;
                                                                                                                                                                                                                                                                              SEQUENCE
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TISSUE-PLACENTA, A
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ADGGFYFGTWSRGLKDG
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23; Conserv
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000 (TrEMBLrel. 15, Last sequence
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PHOSPHATIDYLINOSITOL-4-PHOSPHATE
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                        -DWSYGLRPG
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29.9%;
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Last annotation update)
OL-4-PHOSPHATE 5-KINASE.
                                                                                                                                                                  Score 76; DB
Pred. No. 0.91
4; Mismatches
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Pred. No. 0.14
5; Mismatches
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dicots; Rosidae;
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RESULT 097643

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01-NOV-1996 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
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HSSP;
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01-MAY-1999 (TYEMBLIEL 10, Last sequence up
01-NOV-1999 (TYEMBLIEL 12, Last annotation
FIBRINGEN A-ALPHA CHAIN (FRAGMENT).
                                                                                                                                                                                                                                      PFAM; PF00076; rrm; 1.
PFAM; PF000641; zf-RanBP; 1.
PRINTS; PR00210; GLUTENIN.
PRINTS; PR01237; TNFC.
PROSITE; PS00030; RNP_1; FALSE_NEG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (SEP-1995) to the EMBL/GenBank/DDBJ databases.
-- FUNCTION: PROBABLE RNA-BINDING PROTEIN (BY SIMILARITY).
-- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
-- SIMILARITY: CONTAINS 1 RNA RECOGNITION MOTIF (RNP).
-- SIMILARITY: STRONG, TO FUS AND EWS.
EMBL; U36561; AAA79948.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Itoh K., Kawase M.;
Submitted (SEP-1995)
 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FUS-LIKE PROTEIN (FRAGMENT)
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EMBL; AF095464; AAC67563.
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Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                    DOMAIN
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                                                                                                                                                                                                                                                                                                                                 INTERPRO; IPR002961;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=CARCINOMA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9606;
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Primates;
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Last annotation updat
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Pred.
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POLY-GLY.
POLY-GLY.
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actyla; Tylopoda; Camelidae;
 POLY-GLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vo
Catarrhini;
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No. 1;
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                                                       (RNP2)
(RNP1)
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SIMILARITY).
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01-OCT-2000
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01-OCT-2000
                                                                 01-JUN-1998
01-JUN-1998
01-OCT-2000
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NON_TER
SEQUENCE
                                                                                             057480
057480;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Streptomyces coelicolor. Bacteria; Firmicutes; Ac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HYPOTHETICAL SCL6.26C.
                          Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=A3(2);
Seeger K.J.,
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                 Archosauria;
                                                        PHOTORECEPTOR
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                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                       Submitted (MAR-2000)
                                                                                                                                                                                                                                                                                                                                                                Cerdeno A.M.,
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                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                      Submitted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=1902;
                                                                                                                                                                                                                                                       Hypothetical protein.
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(MAR-2000)
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OR GUANYLATE
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                 Aves;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Streptomycineae;
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#BLrel. 15, Las
#BLrel. 15, Las
#KDA PROTEIN.
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                 Neognathae;
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CYCLASE 1 (FRAGMENT).
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e EMBL/GenBank/DDBJ databases.
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Last annotation updat
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                  Craniata; Vertebrata; Euteleostomi;
; Galliformes; Phasianidae; Phasianinae;
                                                                                                         PRT;
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2.3;
                                                                                                                                                                                                                                                                                             genetic and
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097655;
01-MAY-1999
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SEQUENCE
                                                                                                                                                                                                                       ADJET L.A., Sherwood N.M., Grendell R.L., Gold "CDNA of a second form of luteinizing hormone II, isolated from the non-human primate brain Abstr. - Soc. Neurosci. 24:1607-1607(1998). EMBL; AF104307; AAD13775.1; -.
                                                                                                                                                                                         INTERPRO; IPRO02012; -.
PFAM; PF00446; GnRH; 1.
PROSITE; PS00473; GNRH; 1.
                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                 Cercopithecinae;
                                                                                                                                                                                                                                                                                                                         Macaca mulatta (Rhesus macaque).
Eukaryota; Metazoa; Chordata; Craniata; Vo
Mammalia; Eutheria; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                        01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
CHICKEN LITEINIZING HORMONE-RELEASING HORMONE II (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INTERPRO;
INTERPRO;
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HSSP;
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STRAIN-RHODE
                                                                                                                                                                        SEQUENCE
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                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERPRO; IPR001245; INTERPRO; IPR001828;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    356 GKGDRLWPVYGLEPGIRGLAYRGHSVHWPHSSSPGTDSGCW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10 GSGSQDWS-YGLRPG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity 39. nes 16; Conservative
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                                         13
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                                                                         QHWSHGWYPGGKRALSSAQDPQNALRPPAGSPAQATYGL
                                                                                              QHWSYGLRPG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PF00069; pkinase; 1.
PF00211; guanylate_cyc;
PF01094; ANF_receptor; 1
S; PR00109; TYRKINASE.
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                                                                                                                    . Similarity
18; Conser
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IPR001054;
                                                                                                                                                                        107 AA;
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(TrEMBLrel.
                                                                                                                    Conservative
                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                 Macaca.
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                                                                                                                                                                        11823 MW;
                                                                                             SGSQDWSYGLR-PGGSSQHWSYGL
                                                                                                                             24.5%;
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118288 MW;
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10,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GSSQHWSYGLRPGSGSQDW
                                                                                                               Score 71; DB | Pred. No. 0.44
3; Mismatches
 Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 72; DB Pred. No. 3.4; 3; Mismatches
                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata;
                                                                                                                                                                        FACEE52703C3CB1D CRC64;
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                                                                                                                             DB 6;
0.44;
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3.4;
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mone releasing,
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                                                                         63
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                                                                                                                    12;
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                                                                                                                                        Length 107;
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Best Local
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                                                                                                                                                                                      Barnstead M.E., Mason T.M., Bowman C.L., Ronning C.M., Benito M., Carrera A.J., Creasy T.H., Buell C.R., Town C.D., Nierman W.C., Fraser C.M., Venter J.C.;
"Arabidopsis thaliana chromosome II BAC F19G14 genomic sequence."; submitted (JUL-1999) to the EMBL/GenBank/DDBJ databases.

EMBL; AC006438; AAD41986.1; -.

HSSP; P00303; 2CBP.
SEQUENCE 257 AA: 77...
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9XIL1;
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Macaca mulatta (Rhesus macaque).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1999 (TrEMBLrel. 12, 01-NOV-1999 (TrEMBLrel. 12, 01-OCT-2000 (TrEMBLrel. 15, F19G14 22 PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS00473; GNRH; PRODOM; PD029787; -; 1. Hormone; Amidation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "A second gene for gonadotropin-releasing rhesus macaque (Abstract #632.18).", Abstr. - Soc. Neurosci. 24:1609-1609(1998)-i- FUNCTION: STIMULATES THE SECRETION OF FOLLICLE-STIMULATING HORMONES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-1999 (TIEMBLIEL. 10, Last sequence update) 01-OCT-2000 (TIEMBLIEL. 15, Last annotation updat GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Viridiplantae; Embr
Magnoliophyta; eudicotyledons;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F19G14.22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INTERPRO; IPR002012; -. PFAM; PF00446; GNRH; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Brassicales;
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EMBL; AF097356; AAD09106.1; -.
  87
                                                                                                                 Local
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                                            WSYGLRP-----GSGSQDW-----SYGLRPGGSSQHWSYGLRPGS---
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WGWGGVPNNTHSSGSGGSGWGMGPNNNYSSGSGGSGSGWGYGGHSKNYNATYNGPRKIIV
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18; Conserv
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18; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brassicaceae;
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                                                                                                            24.5%;
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Embryophyta; Tracheophyta; S
dons; core eudicots; Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Arabidopsis
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                                                                                     Score 71; DB Pred. No. 1.1; 6; Mismatches
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Last annotation updat
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HORMONE) (GNRH) (LULIBERIN)
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1.1;
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                                                                                                                                  Length 257;
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                                                                                         Indels
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e; eurosids II;
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                                                                                         26;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 24.9
Best Local Similarity 27.3
Matches 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Molecular aspects of AtPSK2 in stomatal guard cells a phosphatidyinositol-4-phosphate 5-kinase."; Submitted (JUL-1998) to the EMBL/GenBank/DDBJ databases. EMBL; AJ009782; CAB53377.1; -. INTERPRO; IPR001064; -. INTERPRO; IPR001498; -. PFAM; PF01504; PIPSK; 1. PFAM; PF01504; PIPSK; 1. PROSITE; PS00225; CRYSTALLIN_BETAGAMMA; UNKNOWN_1. Kinase; Transferase.
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Q9SUI2;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-JUN-2000 (TrEMBLrel. 14, Last annotation update)
PHOSPHATIDYLINOSITOL-4-PHOSPHATE 5-KINASE (EC 2.7.1.68).
P5K2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
STRAIN=COLUMBIA; TISSUE=SEEDLINGS HYPOCOTYL;
Elge S., Mueller-Roeber B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana (Mouse-ear cress).

Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;

Bugnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II;

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147 GGDKEWTYG 155
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FUS_BOVIN
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Query Match 27.2%; Score 79; DB 1; Length 407; Best Local Similarity 30.6%; Pred. No. 0.15; Matches 15; Conservative 11; Mismatches 23; Indels

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Dev. Biol. 145:201-202(1991).
-i- FUNCTION: MAJOR MATRIX PROTEIN OF THE SEA URCHIN EMBRYO SPICULE.
-HE FUNCTION OF THE MATRIX PROTEINS IS TO DIRECT CRYSTAL GROWTH
CERTAIN ORIENTATIONS AND INJIBIT GROWTH IN OTHERS.
-i- TISSUE SPECIFICITY: EXPRESSED SPECIFICALLY IN THE
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Higashinakagawa T., Killian C.E., Livingston B.T., Wilt F.H.
Benson S.C., Sucov H.M., Davidson E.H.;
"The corrected structure of the SM50 spicule matrix protein
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MEDLINE=87162883; PubMed=3030853;
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v. Biol. 120
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                                                                                                                                                                                                                                                                                                                                                                                      an email to license@isb-sib.ch).
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inacea; Echinoida; Strongylocentrotidae;
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01-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLLIBERIN I PRECURSOR (CONTAINS: GONADOLLIBERIN I (LH
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN REL
(HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE
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                                                                                                                                                                                                                                                                                                                                                                                                                                        Neuroendocrinology 60:346-359(1994).
-!- FUNCTION: STIMULATES THE SECRETION
THE SECRETION OF BOTH LUTEINIZING A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=HYPOTHALAMUS; MEDLINE=95124501; PubMed=7545971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Čraniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GNRH1 OR GNRH OR LHRH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P55247;
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                                                                                                 MOD_RES
                                                                                                                          MOD_RES
                                                                                                                                                                              PEPTIDE
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                                                                                                                                                                                                                             Signa.
                                                                                                                                                                                                                                         Cleavage
                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                PFAM; PF00446; GnRH;
                                                                                                                                                                                                                                                                                                                                           modified and this statement is not removed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             macaques.'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ma Y.J., Costa M.E., Ojeda S.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cercopithecinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Macaca mulatta (Rhesus macaque).
                                                                                                                                                   ACT_SITE
                                                                                                                                                                PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          factor alpha and its
                                                                                                                                                                                                                                                                               INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                  -! - SIMILARITY: BELONGS TO THE GNRH FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Developmental expression of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (FRAGMENT)
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                                                                                                                                                                                                                                                                                                                                                                  European Bioinformatics Institute.
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 l Similarity
15; Conser
                                                                                                                                                                                                                                                                                                                                                      non-profit institutions as long
                                                                                                                                                                                                                                                      PS00473;
                                                                                                                                                                                                                                                                             IPR002012;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ilarity 38.6%;
Conservative
Conservative
                                                                                                                                                                                                                                         pair of basic
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6
19
8
                                                              AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Macaca
                                                                                                                                                                                                                                                      GNRH;
                                                                                                                                                                >67
>67
15
>67
                                                              7573 MW;
                                                                                                    15
           26.4%;
                                                                                                                          6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           receptor
                                                                                                                                                                                                                                         residues; Hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. 0.2
7; Mismatches
           Score 76.5;
Pred. No. 0
                                                              505394DAA261A3F2
                                                                                                              PYRROLIDONE CARBOXYLIC SIMILARITY).
                                                                                                                                       APPEARS TO BE ESSENTIAL ACTIVITY (BY SIMILARITY)
                                                                                                                                                                GNRH-ASSOCIATED PEPTIDE
                                                                                                                                                                              GONADOLIBERIN
                                                                                                                                                                                         BY SIMILARITY.
PROGONADOLIBERIN
                                                                                                    AMIDATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       genes encoding transforming the hypothalamus of female
                                                                                                                                                                                                                                                                                                                                                                                                                                          AND
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0.26;
           0.047;
                                                                                                   (G-16)
                                                                                                                                                                                                                                                                                                                                                     There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GONADOLIBERIN I (LHRH I)

I) (GONADOTROPIN RELEASING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AA
                        DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                          GONADOTROPINS; IT STIMULATES FOLLICLE-STIMULATING
                                                                                                                                                                                                                                         Amidation; Hypothalamus;
                                                                                                    PROVIDE
                                                                                                                                                                                                                                                                                                                                           Usage
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 2;
                                                              CRC64;
                        Length 67;
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  Indels:
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                                                                                                                             ACID
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                                                                                                    AMIDE GROUP) (BY
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MBL outstation -
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  <u>ب</u>
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Gaps
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B

N

GCSSQHWSYGLRPG-GKRD

19

RESULT

HUMAN

GON1_HUMAN

STANDARD;

PRT;

92

B

21-JUL-1986

01-APR-1988 (Rel. 07, 30-MAY-2000 (Rel. 39, PROGONADOLIBERIN I PRE (LUTEINIZING HORMONE F

HORMONE

I) (GNRH I) (LULIBERIN

01, Creater,
07, Last sequence upuace,
13, Last annotation update)
1 PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH 1,
2MONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
2 THITBERIN I) (GONADORELIN); GNRH-ASSOCIATED

Homo sapiens (Human)
Eukaryota; Metazoa; (GNRH1 OR GNRH OR LHRH.

Mammalia; Homo sapiens

Eutheria;

Primates; Chordata;

Catarrhini;

Craniata; Vertebrata; Euteleostomi;

Hominidae; Homo

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entities
or send a
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.

MEDLINE-86094338; PubMed-2867548;

MEDLINE-86094338; PubMed-2867548;

Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.;

"Isolation of the gene and hypothalamic cDNA for the common of gonadotropin-releasing hormone and prolactin release-inh.
                                                                                                                   modified and this statement is not removed entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                      This
                                                                                                                                                                                                                                                                       biosynthesized in the human placenta.";
Biochem. Biophys. Res. Commun. 109:1061-1071(1982).
-!- FUNCTION: STIMULATES THE SECRETION OF GONADOTRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
MEDLINE=89366682; PubMed=2671939;
Hayflick J.S., Adelman J.P., Seek
                                                                                                                                                                            between
                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 24-33. MEDLINE=83126573;
                                                                                                                                                                                                                                                                                                                                           SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                releasing hormone.";
Nature 311:666-668(1984).
                                                                                                                                                                                                                                                                                                                                                                                               Seeburg P.H., Adelman
                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=85012739; PubMed=6090951;
                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic Acids [2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hormone
                                                                                                                                                                                                                                                                                                         "The chemical identity of the immunoreactive LHRH-like peptide
                                                                                                                                                                                                                                                                                                                                                                                      *Characterization of cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                        factor
                      INTERPRO;
                                                                                                                                                              European Bioinformatics Institute.
                                                                                                                                                                                                            SIMILARITY:
                                                                                                                                                                                                                               PHARMACEUTICAL: AVAILABLE UNDER LUTREPULSE OR LUTRELEF (FERRING
                                           S05308; S05308
                                                    A01410; RHHUG.
A26173; A26173.
                                                                                                                                                                           SWISS-PROT entry is copyright.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       complete
                                                                                                                                                                                                                       SERONO
PF00446; GnRH; 1.
TE; PS00473; GNRH;
                                                                         X01059; CAA25526.1;
M12578; AAA35916.1;
X15215; CAA33285.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Natl.
                                                                                                                                                                                                                                                                                                                                                                                                                                      in human and rat.";
Sci. U.S.A.
                                                                                                                                                                                                                                                                 SECRETION OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene.":
                                                                                                                                                                                                                                                                                                                       Rousseau P.
                                                                                                                                                      non-profit
                     IPR002012;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nucleotide sequence
                                                                                                                                                                                                            BELONGS
                                                                                                                                                                                                                                                                                                                               PubMed=6760865;
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                                                                                                                                                      institutions as long
                                                                                                                                                                                                                                                               BOTH LUTEINIZING AND
                                                                                                                                                                                                                                                                                                                                                                                                  J.P
                                                                                                                                                                                                            TO THE
                                                                           . . .
                                                                                                                                                                                                                                                                                                                                                                                     for precursor of human luteinizing hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Seeburg
Juence of
                                                                                                                                                                                                                                                                                                                                                                                                                                            83:179-183(1986).
                                                                                                                                                                                                           GNRH FAMILY
                                                                                                                                                                         Bioinformatics
                                                                                                                                                                            It is produced through a collaboration
                                                                                                                                                                                                                              THE NAMES FACTREL (A) PHARMACEUTICALS) AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P.H.
                                                                                                                             (See http://www.isb-sib.ch/announce/
                                                                                                                                                              There are no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human
                                                                                                                                                     as its content
                                                                                                                                                                                                                                                               FOLLICLE-STIMULATING
                                                                                                                                                                                                                                                                           GONADOTROPINS;
                                                                                                                                        Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gonadotropin-releasing
                                                                                                                                                                         and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                               release-inhibiting
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in no way on

PEPTIDE PEPTIDE

ACT_SITE

APPEARS ?

TO BE

RELEASE-INHIBITING
O BE ESSENTIAL FOR I

BIOLOGICAL

FACTOR

PYRROLIDONE CARBOXYLIC ACID

PROLACTIN

MOD_RES

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RESULT
GON1_MC
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Best Local
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P13562;
01-JAN-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              _MOUSE
                                                                                                                                              entities
or send a
                                                                                                                                                                                                                                                                                                                                                                                P13562;
01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
01-JAN-1990 (Rel. 13, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PROGONADOLIBERIN I PRECURSOR (CONTAINS: GONADOLIBERIN I (LHRH I)
PROGONADOLIBERIN I (CONTAINS: GONADOTROPIN RELEASING LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING FACTOR
                                                                                                                                                                          use
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SEQUENCE
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PEPTIDE
                                                                                                                                                                                                        This
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SIGNAL
                                                                 Placenta;
                                                                           Cleavage
                                                                                      PROSITE;
                                                                                                                           EMBL;
                                                                                                                                                                   modified
                                                                                                                                                                                      the
                                                                                                                                                                                                between
                                                                                                                                                                                                                                                                 "A deletion truncating the gonadotropin-releasing responsible for hypogonadism in the hpg mouse."; Science 234:1366-1371(1986).
                                                                                                                                                                                                                                                                                             Mason A.J., Hayflick J.S., Zoeller R.T., Phillips H.S., Nikolics K., Seeburg P.H.
                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
MEDLINE=87069928; PubMed=3024317;
                                                                                                                                                                                                                                                                                                                                                Mammalia;
                                                                                                                                                                                                                                                                                                                                                                              GNRH1 OR GNRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cleavage
                                                        SIGNAL
                                                                                                        INTERPRO;
                                                                                                                                                                                                                                                                                                                                                          Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23
                                                                                                                                                                                                                                                                                                                                                        musculus (Mouse
aryota; Metazoa;
                                                                                                                                                                                     European Bioinformatics Institute.
                                                                                                                                                                                                                             SIMILARITY:
                                                                                                                                                                                                                                             FUNCTION: STIMULATES THE SECRETION THE SECRETION OF BOTH LUTEINIZING &
                                                                                                                 ; M14872; AAA37717.1; MGI:95789; GNRH.
                                                                                                                                                                                              SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGSSQHWSYGLRPGSGSQD
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                                                                                               PF00446;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15; Conserv
                                                              e; on pair of signal.
                                                                                                                                              s requires a license agreement (So an email to license@isb-sib.ch).
                                                                                                                                                                  non-profit institutions as long and this statement is not removed.
                                                                                    PS00473;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              on pair of basic
Pharmaceutical;
                                                                                                       IPR002012;
                                                                                                                                                                                                                                                                                                                                                Eutheria;
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               222
24
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                                                                                               GnRH;
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                                                                          of bas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of basic
                                                                                                                                                                                                                                                                                                                                               Chordata;
Rodentia;
                                                                           NRH; 1
basic
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Signal.
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                                                                           residues;
                                                                                                                                                                                                                                                                                               Seeburg P.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 76.5; D
Pred. No. 0.06
1; Mismatches
                                   PROGONADOLIBERIN GONADOLIBERIN I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AMIDATION (G-34 PROVIDE W -> S (IN REF. 3). 30A72221B076FA79 CRC64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROGONADOLIBERIN I.
GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE
APPEARS TO BE ESSENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PYRROLIDONE CARBOXYLIC
                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                          Hormone;
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AND
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                                                                                                                                                                                                                                                                                                       Young
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .063;
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FOLLICLE-STIMULATING
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                                                                          Amidation;
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Murinae; Mus
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FOR
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                                                                                                                                                                                    restrictions on
                                                                                                                                                                   and
                                                                           Hypothalamus;
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RESULT
GON1_P
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Best Local :
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SEQUENCE
Cleavage of Placenta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 35, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH:
[UTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEAS:
[HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
                                                                                                                                                                         This
                                                                                                                                                                                                                      Baba Y., Arimura A., Schally A.V.;
"On the tryptophan residue in porcine LH and FSH-releasing hormone.";
Biochem. Biophys. Res. Commun. 45:483-487(1971).
-i- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 24-33
MEDLINE=72114303;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=HYPOTHALAMUS;
Weesner G.D., Matteri R.L.,
Submitted (MAY-1994) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sus scrofa (Pig).
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GNRH1
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01-OCT-1996 (Rel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PIG
                        PROSITE;
                                                                                                         use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See
                                                                                                                                                                                                                                                                                                                                   Matsuo H., Arimura A., Nair R.M.G. "Synthesis of the porcine LH- and phase method.";
                                                                                                                                                                                                                                                                                                                                                                                                                                    Confirmation of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM
                                                                                              or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                     SYNTHESIS
                                                                                                                                                                                                                                                                                                                                                                                                                        analyses
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Baba Y., Matsuo H.,
                                     PFAM;
                                                                         EMBL; L32864; AAA31066.1;
                                                                                                                                                the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                    MEDLINE=72117544; PubMed=4946275;
                                                                                                                                                                                                                                                                                                 SYNTHESIS OF GONADOLIBERIN
                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=72065376; PubMed=4942726;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Baba Y., Matsuo H., Schally A.V.;
"Structure of the porcine LH- and FSH-releasing
                                               NTERPRO; IPR002012; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
es 13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23 GGSSQHWSYGLRPG
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                                                                                                                                                                                                SIMILARITY: BELONGS TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SWISS-PROT entry is copyright. It is produced through sen the Swiss Institute of Bioinformatics and the EN
                                                            A01411; RHPGG
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              on
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                         PS00473; GNRH;
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                                     GnRH; 1
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10337 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       31
                                                                                                                                                                                                                                                                                                                                                                                                                                   proposed structure
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              basic residues;
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                                                                                                                                                                                                                                                                                                                          Commun.
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                                                                                                                                                                                                 THE GNRH FAMILY.
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EMBC/GenBank/DDBJ databases
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Pred. No.
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1C0766FA4826E4D9 CRC64;
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                                                                                                                                                                                                                                                                                                                                               FSH-releasing
              Hormone;
                                                                                                                                                                                                                                                                                                                                                           Schally A.V.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91
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There are no restrictions
ong as its content is in
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                                                                                                                       Usage
              Amidation; Hypothalamus;
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Matches 13
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SEQUENCE FROM N.A.
MEDIINE-89384661; PubMed-2476669;
MEDIINE-89384661; PubMed-2476669;
MEDIINE-89384661; PubMed-2476669;
Mend C.T., Hayflick J.S., Seeburg P.H., A
"The rat gonadotropin-releasing hormone:
hypothalamic expression.";
hypothalamic expression.";
hypothalamic expression.";
hypothalamic expression.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GON1_RAT STANDARD; PRT; 92 AA.

PO7490;
01-APR-1988 (Rel. 07, Created)
01-APR-1988 (Rel. 07, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
01-OCT-2000 (Rel. 40, Last annotation update)
PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
(LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING HORMONE I)
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CHAIN
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                                                                                                                                                                                                                                                                                                                                                          of gonadotropin-releasing hormone factor in human and rat."; Proc. Natl. Acad. Sci. U.S.A. 83:1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                      HORMONES.
-!- TISSUE SPECIFICITY:
-!- SIMILARITY: BELONGS
                                                                                                     MEDLINE=87149087; PubMed=3547652; Adelman J.P., Bond C.T., Douglass "Two mammalian genes transcribed "Two mammalian genes transcribed"
                                                                                                                                                                             Maier C.C., Marchetti B., Leboeuf R.D., Blalock "Thymocytes express a mRNA that is identical to luteinizing hormone-releasing hormone mRNA."; Cell. Mol. Neurobiol. 12:447-454(1992).
                                                                                                                                                                                                                                                                                                                                                                                              Adelman J.P., Mason A.J., Hayflick J.S., "Isolation of the gene and hypothalamic of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GNRH1 OR GNRH
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                                                                        Science
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                                                                                                                                                                                                                            MEDLINE=93105480; PubMed=1468115;
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                                                   locus.";
ence 235:1514-1517(1987).
FUNCTION: STIMULATES THE SECRETION
FUNCTION: STIMULATES THE SECRETION !
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TO THE GNRH FAMILY.
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Pred. No.
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                                                                                                                                                                                                      J.E.;
hypothalamic
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SEQUENCE
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01-FEB-1994 (Rel. 28, Last annotation update)
SEMINAL VESICLE SECRETORY PROTEIN II PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A., AND PARTIAL S
MEDLINE=90277684; PubMed=2351680;
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ACT_SITE
                                                                                                                                                                                                                                                                                          protein and gene
                                                                                                                                                                                                                                                                                                                               Harris S.E., Harris M.A., Johnson C.M., Matusik R.J., Carr S.A., Crabb J.W.;
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Mammalia; Eutheria;
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01-FEB-1994
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PIR; A48410; A48410.
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                                                                                                                                                 Biol. Chem. 265:9896-9903(1990).

FUNCTION: THE RAT SEMINAL VESICLE CONTAINS SIX MAJOR ANDROGEN-
DEPENDENT SECRETORY PROTEINS REFERRED TO AS SVS I-VI. THE SVS
I-III PROTEINS APPEAR TO BE COMPONENTS OF THE RAT COPULATORY
PLUG, WITH THE SVS II PROTEIN BEING THE MAJOR COMPONENT.
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PTM: THE REPERTING UNIT APPEARS TO BE INVOLVED IN THE FORMATIC
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                                                                                                                              GLUTAMINE AND LYSINE RESIDUES.
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; M12579; AAA41263.1;
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; M31670; AAA42141.1;
; M15527; AAA42141.1;
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Sciurognathi; Muridae;
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494B5C64DA8A3EB3
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GONADOLIBERIN I.
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O BE ESSENTIAL FOR BIOLOGICAL
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; Murinae; Rat
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RESULT 9
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01-OCT-2000
RNA-BINDING
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P56959;
01-OCT-2000
  entities
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                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                           "Regulation of pigpen expression in mouse embryos.";
Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.

i- FUNCTION: BINUS BOTH SINCLE-STRANDED AND DOUBLE-STRANDED DNA AND PROMOTES ATP-INDEPENDENT ANNEALING OF COMPLEMENTARY SINGLE-STRANDED DNAS AND D-LOOP FORMATION IN SUPERHELICAL DOUBLE-STRANDED DNA, MAY PLAY A ROLE IN MAINTENANCE OF GENOMIC INTEGRITY (BY SIMILARITY).

SIMILARITY).

-!- SUBUNIT: COMPONENT OF NUCLEAR RIBOPROTEIN COMPLEXES (BY
                                                                                                                                                                                                                                      Alappat S.
Burdsal C.
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                                                                                                                                                                                                                                                                                              Eukaryota;
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                                                                                                                                                                                                                                                                                     Mammalia;
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                                                                                                                        SIMILARITY).
SUBCELLULAR LOCATION:
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A36443; A36443.
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          an
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                    requires a license agreement
                                                                                                                                                                                                                                                                                     Eutheria;
         email
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                                                                                                                                                                                                                                                  Zhang M.,
                                                                                                                                                                                                                                                              N.A.
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                                                                                                 CONTAINS 1 RNA RECOGNITION MOTIF (RRM). BELONGS TO THE TET FAMILY OF RNP PROTEINS.
         to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                     Rodentia;
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                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
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                    (See
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 414;
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RESULT 10
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                                                       This SWISS-PROT entry is copyright. It is produbetween the Swiss Institute of Bioinformatics the European Bioinformatics Institute. There
                                                                                                                                                                                                                                                                regulatory protein, pigpen: new function for an EWS family member Exp. Cell Res. 255:270-277(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1997
01-OCT-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RNA-binding; DNA-binding; Nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE;
                                                                                                                                                                                                                                                                                                                           CARBOHYDRATE BINDING DOMAIN. MEDLINE=20160719; PubMed=10694442;
                                                                                                                                                                                                                                                                                                                                                              quiescent phenotype in cultured Dev. Biol. 174:288-297(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota;
Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RNA-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1997
                                                                                                                                                                                                                                                                                                                Alliegro M.C.
                                                                                                                                                                                                                                                                                                                                                                                     "A nuclear protein regulated during the transition from active
                                                                                                                                                                                                                                                                                                                                                                                                   Alliegro M.C.,
                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=96175600; PubMed=8631501;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bovidae;
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                                                                                                       DOMAIN: THE C-TERMINAL SIMILARITY: CONTAINS 1 SIMILARITY: BELONGS TO
                                                                                                                                           SUBCELLULAR LOCATION: NUCLEAR, EXHIBITS DIFFUSE STAINING THROUGHOUT (EXCLUDING NUCLEOLI), TOGETHER WITH A SMALL NUN INTENSELY STAINED FOCAL POINTS, OR GRANULES, AND PUNCTATE ALONG THE NUCLEAR ENVELOPE.
                                                                                                                                                                                        SIMILARITY).
SUBUNIT: COMPONENT OF
SIMILARITY).
                                                                                                                                                                                                                           FUNCTION: BINDS BOTH SINGLE-STRANDED AND DOUBLE-STRANDED DNA AND PROMOTES ATP-INDEPENDENT ANNEALING OF COMPLEMENTARY SINGLE-STRANDED DNAS AND D-LOOP FORMATION IN SUPERHELICAL DOUBLE-STRANDED DNA. MAY PLAY A ROLE IN MAINTENANCE OF GENOMIC INTEGRITY (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MGI:1353633;
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        non-profit institutions as long and this statement is not removed. requires a license agreement (See an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bovinae;
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265
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518
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       52673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MW;
                                                                                                                                                                                                      NUCLEAR RIBOPROTEIN COMPLEXES
                                                                                                        RNA RECOGNITION MOTIF (RRM).
THE TET FAMILY OF RNP PROTEINS.
                                                                                                                                DOMAIN BINDS CARBOHYDRATES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C4-TYPE (POTENTIAL).
; E06F231BFEED78D6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GLY-RICH.
RNA-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GLN/GLY/SER/TYR-RICH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ARG/GLY-RICH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                           endothelial cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      70;
No.
                                                                                It is produced through
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ruminantia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 512
                     (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YGLRPGSGSQDWSYG
                                      There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΑÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .6;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Repeat;
                                Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 518
                                                                   and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zinc-finger; Zinc;
                                                                                                                                                                                                                                                                                        family member.";
                                                        restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   45
                                 and
                                                                                                                                                                                                      (BY
                                                                   EMBL
                                              is
                                                                                a collaboration
                                                                                                                                                                   NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12;
                                   tor
                                                                      outstation
                                                                                                                                                        STAINING
                                                                                                                                                                                                                                                                                                                                                                                      6
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                                 in no way
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RESULT 11
FUS_HUMAN
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Metal-binding.
DOMAIN 165
DOMAIN 271
DOMAIN 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUS_HUMAN
P35637;
01-JUN-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
ZN_FING
                                                                                                                                                                                                                                                                                                                                                                                                                    RNA-BINDING
LIPOSARCOMA
                                                                                                                                                                                                                                                                                                                                                                                                                                         01-JUN-1994
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERPRO; IPRO00504; -.
INTERPRO; IPRO01876; -.
PFAM; PF00076; rrm; 1.
                      CHROMOSOMAL TRANSLOCATION.
MEDLINE-94243799; PubMed=8187069;
                                                                                                                                                        Morohoshi F., Ootsuka
Munakata N., Ohki M.;
                                                                                                                                                                             SEQUENCE FROM N.A. (LONG AND SHORT MEDLINE=99013873; PubMed=9795213;
                                                                                                                                                                                                                "Fusion of the dominant negative transcription regulator CHOP with novel gene FUS by translocation t(12;16) in malignant liposarcoma. Nat. Genet. 4:175-180(1993).
                                                                                                                                                                                                                                                                                                              "Fusion of CHOP to a novel
                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                          FUS OR TLS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS50102; RRM; 1.
PROSITE; PS00030; RRM_RNP_1; FALSE_NEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PFAM; PF00641; zf-RanBP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; U26024;
HSSP; P09651;
 Ichikawa H.,
"An RNA-bind
                                                                  TLS/FUS and
                                                                                        Baechtold H.,
                                                                                                                                     Gene
                                                                                                                                                                                                                                                 Rabbitts T.H., Forster A., Larson R., Nathan P.;
                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. (SHORT ISOFORM).
MEDLINE=93350637; PubMed=7503811;
                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. (LONG ISOFORM)
MEDLINE=93288139; PubMed=8510758;
                                                                                                                                                                                                                                                                                                                                                                          Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RNA-binding;
                                                                              "Human
                                                                                                  MEDLINE=20036580; PubMed=10567410;
                                                                                                             SEQUENCE OF 235-244; 307-312;
                                                                                                                                                                                                                                                                                            Nature 363:640-644(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100 YGQQPAPSSTSGSYGSSSQSSGYGQPQGG-----GYGQQSGYGGQQQSYG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5 YGLRP
                                                                                                                                 omic structure of the human 221:191-198(1998).
                                                      75-kDa DNA-pairing protein is identical to S and is able to promote D-loop formation."; 1. Chem. 274:34337-34342(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19;
                                                                                                                                                                                                                                                                                                                                                                        Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             512
                                                                                                                                                                                                                                                                                                                                                                                                         (Rel. 29, Created)
(Rel. 29, Last sequence update)
(Rel. 40, Last annotation update)
PROTEIN FUS (ONCOGENE FUS) (ONCOGENE TLS) (TRANSLOCATED
PROTEIN) (POMP75) (75 KDA DNA-PAIRING PROTEIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA-binding; Nuclear protein;
           Shimizu K., Hayashi Y.,
                                                                                         Kuroda M., Sok J., Ron D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAC13543.1;
                                                                                                                                                                    Ootsuka Y., Arai K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                               P., Mandahl N., Ron D.;
to a novel RNA-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        164
253
357
512
433
                                                                                                                                                                                                                                                                                                                                                                        Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              52240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23.8%;
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                                                                                                                                                                                                                                                                                                                                                  ISOFORM).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 69;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ARG/GLY-RICH.
C4-TYPE (POTENTIAL).
; 3652329C044F1386 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RNA-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                          Craniata; V Catarrhini;
                                                                                                              335-345 AND
                                                                                                                                                RBP56/hTAFII68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                    Ichikawa H.,
                                                                                                                                                                                           ISOFORMS)
Ohki
S, is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      526
                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB
                                                                                                                                                                                                                                                                                                                                                                        Vertebrata; i; Hominidae;
                                                                                        Lopez B.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A
            Ξ
                                                                                                               349-357,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 512;
                                                                                                                                                and
                                                                                                                                                                                                                                                                                                                  in
                                                                                                                                                                     Mitani S.,
                                                                              the
                                                                                                                                                                                                                                                                                                                  human
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                                                                                                               ζ'n
                                                                                                                                                FUS/TLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zinc-finger;
                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi;
                                                                                                               CHARACTERIZATION
                                                                                         Akhmedov
                                                                              pro-oncoprotein
                                                                                                                                                                                                                          liposarcoma.";
                                                                                                                                                                                                                                                                                                                  myxoid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  45
                                                                                                                                               genes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zinc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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RNA-binding protein gene, TLS/FUS,

fused

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ERG

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human

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RESULT 12
GON1_HAPBU
                                                                                                                                                                                                  PAC
DAC
                                                                                   В
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                                                                                                                                   Query Match
Best Local S
Matches 18
GON1_HAPBU
P51918; 093387;
01-OCT-1996 (Re
                                                                                                                                                                                                VARSPLIC
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cancer
                                                                                                                                                                                                                                                                                                                                           PROSITE; PS50102; RRM; 1.

PROSITE; PS00030; RRM_RNP_1; PALSE_NEG.

Proto-oncogene; RNA-binding; DNA-binding; Nuclear protein; Repeat;
                                                                                                                                                                                                                                                                                                                                                                                      INTERPRO; IPRO00504; ...
INTERPRO; IPRO01876; ...
PFAM; PF00076; rrm; 1.
PFAM; PF00641; zf-RanBP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collable between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             myeloid leukemia
                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                        Metal-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                       MIM; 137070;
MIM; 151900;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AF071213; AAC35284.1; PIR; S33799; S33799.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             or send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       modified
                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                        Alternative
                                                                                    100
                                                                                                            ū
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDED DNAS AND D-LOOP FORMATION IN SUPERHELICAL DOUBLE-STRANDE DNA, MAY PLAY A ROLE IN MAINTENANCE OF GENOMIC INTEGRITY.

SUBUNIT: COMPONENT OF NUCLEAR RIBOPROTEIN COMPLEXES.

SUBCELLULAR LOCATION: NUCLEAR.

TISSUE SPECIFICITY: UBIQUITOUS.

ALTERNATIVE PRODUCTS: 2 ISOFORMS; A LONG ISOFORM (SHOWN HERE)
AND A SHORT ISOFORM; ARE PRODUCED BY ALTERNATIVE SPLICING.

DISEASE: A FORM OF MALIGNANT MYXOID LIPOSARCOMA IS CHARACTERIZED BY A CHROMOSOMAL TRANSLOCATION T(12;16)(Q13;P11) THAT INVOLVES FU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY: CONTAINS SIMILARITY: BELONGS 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AND CHOP.
DISEASE: A FORM OF
BY A CHROMOSOMAL TR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; S62140; AAB27102.1;
; S62118; AAB27103.1; I
; X71427; CAA50558.1; I
; X71428; CAA50559.1; I
; AF071213; AAC35285.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FUNCTION: BINDS BOTH SING
                                                                                   YGQQPAPSSTSGSYGSSSQSSSYGQPQSGSYSQQPSYGGQQQSYG
                                                                                                            YGLRPGSGSQDWSYGLRPGGSS----
                                                                                                                                    l Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AND ERG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         requires a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and this statement is not removed.
                                                                                                                                                                                               64
338
526
(Rel. 34, Created)
                                                                                                                                                                                                                                                                                                                                       splicing; Chromosomal translocation; Zinc-finger;
                                                                                                                                                                                                                                                            166
285
371
428
                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              : BINDS BOTH SINGLE-STRANDED AND DOUBLE-STRANDED DNA AND ATP-INDEPENDENT ANNEALING OF COMPLEMENTARY SINGLE-DNAS AND D-LOOP FORMATION IN SUPERHELICAL DOUBLE-STRANDED PLAY A ROLE IN MAINTENANCE OF GENOMIC INTEGRITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1HA1.
                                                                                                                                                                                                  Ã,
                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             with t(16;21) chromosomal translocation.";
                                                                                                                                                                                                                                               165
267
371
526
447
267
                                                                                                                                                                                                  53426
                                                                                                                                               23.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRANSLOCATION T(16;21)(P11;Q22)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                s 1
TO
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ALT_SEQ.
ALT_SEQ.
                                                                                                                                                                                                  M.
                                                                                                                                                                                           ARG/GLY-RICH.

C4-TYPE (POTENTIAL).

C4-TYPE (POTENTIAL).

BRAKPOINT FOR TRANSLOCATION TO BREAKPOINT FOR TRANSLOCATION TO FUS/TLS-CHOP ONCOGENE.

TG -> S (IN SHORT ISOFORM).

T -> N (IN REF. 4).

MW; 88C8E263B7305549 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THE TET FAMILY
                                                                                                                              Score 69; UB. Pred. No. 2; 2; Mismatches
                                                                                                                                    2
                                                                                                                                                                                                                                                                                    GLN/GLY/SER/TYR-RICH.
GLY-RICH.
RNA-BINDING (RRM).
                       PRT;
                                                                                                          -QHWSYGLRPGSGSQDWSYG
                                                                                                                                           DB 2;
                       94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (See http://www.isb-sib.ch/announce/
                       A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OF RNP
                                                                                                                                                           1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RNP PROTEINS.
                                                                                                                                   21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Usage
                                                                                                                                                           Length 526;
                                                                                                                                    Indels
                                                                                                          45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IS CHARACTERIZED
) THAT INVOLVES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ЬY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a collaboration -
                                                                                                                                   4.
                                                                                                                                                                                                                                                  FORM
                                                                                                                                   Gaps
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9
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PEPTIDE
PEPTIDE
MOD_RES
MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Primary occurrence (GnRH) in cichlid pituitary, and pumpkinseed fish.", Requl. Pept. 57:43-53(1995).
CONFLICT
SEQUENCE
                                                                                                                                              Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=95372591; PubMed=7644702;
Powell J.F.F., Fischer W.H., Park
White S.A., Francis R.C., Fernald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Haplochromis burtoni.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidei;
                                                                                                                                                                                                                                                                EMBL; U31865; AAC59691.1; EMBL; AF076961; AAC27716.
                                                                                                                                                                                                                                                                                                                                                                    use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                            the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sherwood N.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Ontogeny of reveals a dis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  White R.B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDLINE=99061842;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     novel roles
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE=95396797; PubMed=7667296;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING
                                                                                                                           CHAIN
                                                                                                                                                                                    Cleavage
                                                                                                                                                                                                           PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      White S.A., Kasten T.L., Bond C.T., Ad "Three gonadotropin-releasing hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cichlidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (LH-RH I) (LULIBERIN
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TISSUE SPECIFICATY: SYNTHESIZED IN PREOPTIC NEURONALIZATION TO THE PREOPTIC NEURONALIZATION TO THE GONALIZATION THE GONALIZATION TO THE GONALIZATI
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                                                                                                                                                                                                                              PF00446;
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                                                                                                                                                                                                                                                                                                                              an email to license@isb-sib.ch).
                                                                                                                                                                 Multigene
                                                                                                                                                                                    on pair of basic
                                                                                                                                                                                                         PS00473;
                                                                                                                                                                                                                                                                                                                                                   requires a
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Acad. Sci. U.S.A. 92:8363-8367(1995).
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                                                                                                                                                                                                         GNRH;
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GONADOLIBERIN I.
GNRH-ASSOCIATED PEPTIDE I
PYRROLIDONE CARBOXYLIC ACI
AMIDATION (G-33 PROVIDE AMIDE GROUP).
ENGHRTFKK -> KMDTGHSRNERFL (IN REF. 1
E57DBA83333278D7 CRC64;
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OF
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                                                                              (POTENTIAL)
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                                                                                                                                                                                    Hypothalamus
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Query Match Best Local Matches

L Similarity 13; Conser

Conservative

23.6%;

Score 68.5; DB Pred. No. 0.42;

DB 1;

Length

94;

Mismatches

Indels

1;

Gaps

RESULT 13
SM34_LYTPI
ID SM34_I

SM34_LYTPI

STANDARD;

PRT;

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ΑA

В Q

18 22

36

PGGSSQHWSYGLRPGSGSQD 41 PQGCCQHWSYGLSPG-GKRD

(LH-RH) (LULIBERIN I).

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GON1_XENLA
ID GON1_X
AC P45656
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DT 01-NOV
DT 01-MAY
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P45656;
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GONADOLIBERIN 1
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DOMAIN
SEQUENCE
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SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=GASTRULA;
MEDLINE=92077276; PubMed=1743395;
Livingston B.T., Shaw R., Bailey A., Wilt F.;
Livingston B.T., Shaw R., Bailey A., Wilt F.;
"Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA encoding a protein involved "Characterization of a cDNA" encoding a protein involved "Characterization of a cDNA" encoding a protein involved "Characterization" encoding a control of a co
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Eukaryota; Metazoa; Echinodermata; Eleu
Echinoidea; Euechinoidea; Echinacea; Te
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUBCELLULAR LOCATION: SECRETED.
TISSUE SPECIFICITY: EMBRYO SPICULE.
DOMAIN: THE REPETITIVE DOMAIN MAY PROVIDE A CALCITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY: CONTAINS 1 C-TYPE LECTIN FAMILY DOMAIN SIMILARITY: BELONGS TO THE SM50 FAMILY.
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                                                                                                                                                                                                                                                                                                                            l Similarity 39.
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335
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(Rel. 37, Last sequence up)
(Rel. 37, Last annotation)
                           (Rel.
Rel. 32, Created)
Rel. 32, Last sequence update)
Rel. 39, Last annotation update)
I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
                                                                                                                                                                                                                                                                                                                                                                                                                                         AA;
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35426 MW;
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POTENTIAL.
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C-TYPE LECTIN.
PRO-RICH.
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IN ORIENTATIONS AND INHIBI
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Matches 12
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01-MAR-1989
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENGOCTINOLOGY 134:1835-1844(1994).
-!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS
-!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleost
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                 "Cloning and nucleotide sequence of pseudomonas amyloderamosa SB-15.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cleavage on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          use by non-profit institutions as long modified and this statement is not removed
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "The frog gonadotropin-releasing hormone-I (GnRH-I) gene has mammalian-like expression pattern and conserved domains in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=94185563; PubMed=8137750;
SEQUENCE FROM N.A.
                                                                MEDLINE=88243808; PubMed=3379068;
                                                                              STRAIN-SB-15;
                                                                                       SEQUENCE FROM N.A.
                                                                                                             Bacteria;
                                                                                                                                     AM
                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                       CHAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=FOREBRAIN;
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                                                       Amemura A.,
                                                                                                                         Pseudomonas
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15-DEC-1998
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                                                                                                                                                [SOAMYLASE]
                                                                                                                                                                                                    ISOA_PSEAY
                                                                                                                                                                                                                                                                              26
                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                           23
                       Biol.
                                                                                                                                                                                                                                                           AQHWSYGLRPG-GKRD
                                                                                                                                                                                                                                                                            SQHWSYGLRPGSGSQD 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  L28040; AAA49728.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRO; IPR002012; -. PF00446; GnRH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PS00473;
                                                                                                             Proteobacteria
                                                                                                                                                                                                                                                                                                                                                            89
                                                                                                                                                PRECURSOR
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                                                      Chakraborty R., Fujita M.,
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(Rel.
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                                                                                                                         amyloderamosa
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EMBL; X13378; CAA31754.1; -.
PIR; A28109; A28109.
PDB; 1BF2; 12-AUG-98.
INTERPRO; IPR000461; -.
PFAM; PF00128; alpha-amylase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=91064385; PubMed=2248978; Chen J.C., Tan S.T., Hsu W.H.; Chen J.H., Chen Z.Y., Chow T.Y., Chen J.C., Tan S.T., Hsu W.H.; "Nucleotide sequence and expression of the isoamylase gene from an isoamylase-hyperproducing mutant, Pseudomonas amyloderamosa JD210."; Biochim. Biophys. Acta 1087:309-315(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE-98387895; PubMed-9719642;
Katsuya Y., Mezaki Y., Kubota M., Matsuura Y.;
"Three-dimensional structure of Pseudomonas isoamylase at 2.2-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Amemura A., Fujita M., Futai M.; "Transcription of the isoamylase gene (iam) in Pseudomonas amyloderamosa SB-15.";
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Bacteriol. 171:4320-4325(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY: BELONGS TO FAMILY 13 OF GLYCOSYL HYDROLASES, ALSO KNOWN AS THE ALPHA-AMYLASE FAMILY. ISOAMYLASE SUBFAMILY.
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GAYT -> AVH (IN REF. 1).

SGLDLEAEPWALGGNSYOLGGEPOGWSEWNGLFRDS ->

TVWICLRNLGPSAATRTSWVDSRRVVRVEWSVPRQ (IN REF. 1).

REF. 1).

WP -> S (IN REF. 1).
                                                                  Score 66; DB Pred. No. 5.9; 6; Mismatches
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BY SIMILARITY.
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FRKAHPA -> RSARHIP (IN REF. 1).
F738BF8040246169 CRC64;
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Copyright (c) 1993 - 2000 Com
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ALIGNMENTS		T38274	EEWTHW	T22256	T51821	JC5280	G65028	S15193	A39127	T15372	S21359	I50644	T08675	S47639	T49418	T32631	F75524	
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R;Ma, 1.0., 1.0., R;Ma, 1.0., Reuroendocrinology 60, 346-359, Reuroendocrino C; Accession: I78541
R; Ma, Y.J.; Costa, M.E.; Ojeda, C;Species: Macaca mulatta (rhesus macaque)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C;Accession: I78541 B Qy F;1-15/Domain: signal sequence #status predicted <SIG>F;16-445/Product: 50K spicule matrix protein #status predicted <MAT>F;216-445/Product: 50K spicule matrix protein #status predicted <MAT>F;212-307,321-411/Region: 13-residue repeats (O-P-G-F/M/W-G-N/G-Q-P-G-V/M-G-G-R)F;411-430/Region: 3-(or 2-)residue repeats (P-N-N or P-N) A; Molecule type: mRNA
A; Residues: 1-199, 'GTSLSANNRAWDKAALVINNOAWVGDNQALVINQEWVGDNQALVINOEWEGDNQAGVINPVWVGDN
AGDNQVWEGDNQALVINQVWVGDNQAWVASNRITRITRITRITRITRITRITQIPGSTDPVCFKRQTRWHNLSSD' <SUC>
A; Note: this sequence has been corrected in reference A49766
R; Katch-Fukui, Y; Noce, T; Ueda, T; Fujiwara, Y; Hashimoto, N; Higashinakagawa,
Dev. Biol. 145, 201-202, 1991 R;Sucov, H.M.; Benson, S.; Ku. gonadoliberin precursor - rhesus macaque (fragment) N; Alternate names: luteinizing hormone releasing hormone A; Molecule type: mRNA A; Residues: 1-445 < KAT> A; Title: The corrected structure of the SM50 spicule matrix protein of Strongylocentr A; Reference number: A49766; MUID:91209669
A; Accession: A49766 A; Title: A lineage-specific gene encoding A; Reference number: A27263; MUID:87162883 A; Accession: A27263 C; Accession: A27263; A49766 C;Species: Strongylocentrotus purpuratus (purple urchin)
C;Date: 19-Nov-1988 #sequence_revision 12-May-1994 #text_change 17-Mar-1999 50K spicule matrix protein precursor - sea urchin (Strongylocentrotus purpuratus) RESULT A; Introns: 35/2 A;Gene: I78541 A;Cross-references: GB:M16231; NID:g161560; PID:g161562; GB:M15760 Matches Query Match 237 Local 6 GLRPGSGSQDWSYGLRPGGSSQHWSYGLRPG SM50 GRQPGFGNQPGMGGRQPGWGNQPGVGGRQPGMGGQQPGWGNQPG ch 26.6%; Similarity 38.6%; 17; Conservative Robinson, J.J.; S.R. Score 77; DB 2 Pred. No. 0.47; 7; Mismatches മ Britten, R.J.; major matrix protein of 2 20; Length 445 280 49 Indels Wilt, Ŧ :: 0; the sea urchin Davidson, Gaps 0 Е.Н. em

encoding transforming growth factor

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A;Experimental source: placental trophoblasts R;Leibovitz, D.; Koch, Y.; Pitzer, F.; Fridkin, M.; Dantes, A.; Baumeister, FEBS Lett. 346, 203-206, 1994 A;Title: Sequential degradation of the neuropeptide gonadotropin-releasing A;Reference number: S45718; MUID:94283597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: EMBL:X15215; NID:g31955; PIDN:CAA33285.1; R;AdeLman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H. Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic cDNA for the A;Reference number: A94090; MUID:86094338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Species: Homo sapiens (man)
C;Date: 17-Mar-1987 #sequence_revision 21-Jul-1995 #text_change C;Accession: S05308; A26173; A93342; A90108; A01410; S45718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R:Seeburg, P.H.; Adelman, J.P.
Nature 311, 666-668, 1984
A;Title: Characterization of cDNA for precursor A;Reference number: A93342; MUID:85012739
A;Accession: A93342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Hayflick, J.S.; Adelman, J.P.; Seeburg, P.H.
Nucleic Acids Res. 17, 6403-6404, 193
A;Title: The complete nucleotide sequence of the human gonadotropin-releasing
A;Reference number: S05308; MUID:89356682
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A; Residues: 1-67 < RES>
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A; Status: preliminary;
                                                                                               A; Map position: 8p21-8p11.2
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                                                                                                                                              A;Gene: GDB:GNRH; LHRH;
                                                                                                                                                                    C; Genetics:
                                                                                                                                                                                          A; Contents: annotation; degradation pathway of synthetic
                                                                                                                                                                                                                                                                                                                                        A; Molecule type: protein A; Residues: 24-33 < TAN>
                                                                                                                                                                                                                                                                                                                                                                                      A;Reference number:
A;Accession: A90108
                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R; Tan, L.; Rousseau, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Experimental source:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: GB:X01059; NID:g34356;
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A; Residues: 1-15,'S',17-92 <SEE>
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A; Residues: 1-92 <HAY>
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iption: gonadoliberin stimulates pituitary gonadoliberin-associated protein may have
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The chemical identity of the immunoreactive LHRH-like peptide biosynthesized nce number: A90108; MUID:83126573
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gonadotropin releasing hormone (GnRH); luteinizing
liberin-associated protein (GAP); progonadoliberin
                                                                                                                     GDB:133746;
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of lutropin and for release inhibiting
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                                                                                                              N;Alternate names: gonadoliberin-associated protein (GAP); gonadotropin releasing N;Contains: gonadoliberin; prolactin release-inhibiting factor C;Species: Rattus norvegicus (Norway rat) C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 18-Jun-1999 C;Accession: A40147; B26173; A48410 R;Bond, C.T.; Hayflick, J.S.; Seeburg, P.H.; Adelman, J.P. Mol. Endocrinol. 3, 1257-1262, 1989
                                            A; Title: The rat gonadotropin-releasing hormone: SH A; Reference number: A40147; MUID:89384661 A; Accession: A40147
                                                                                                                                                                                                                                                                                    gonadoliberin precursor -
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18

DNA <BON>

locus:

structure

and hypothalamic

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C; Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic F;1-23/Domain: signal sequence #status predicted <SIG> F;2-2-31/Product: gonadoliberin #status predicted <GLB> F;35-90/Product: gonadoliberin-associated protein #status predicted <GP F;22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) F;31/Modified site: amidated carboxyl end (Gly) (amide in mature form f
                                                                                                                                                                                                                                                  C; Superfamily: gonadoliberin
                                                                                                                                                                                                                                                                        A; Note:
                                                                                                                                                                                                                                                                                                          C; Function
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                                                                                                                                                                                                                                                                                                                                                  C; Genetics:
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                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-90 < MAS>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R; Mason, A.J.; Hayflick, J.S.;
Science 234, 1366-1371, 1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Date: 31-De C; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N;Contains: gonadoliberin; gonadolibe C;Species: Mus musculus (house mouse)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F;1-23/Domain: signal sequence #status predicted <SIG>F;24-92/Product: progonadoliberin #status predicted <PGN>
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C;Keywords: amidated carboxy
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                                                                            Query Match
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23 GGSSQHWSYGLRPG 36
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les 15; Conserv
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                                                                                                                                                                                                                                                                  gonadoliberin-associated
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92.9%;
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n may have
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prolactin
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A;Cross-references: GB:S50870; NID:g262059; PIDN:AAB24572.1; PID:g262060
A;Experimental source: thymus
A;Note: sequence extracted from NCBI backbone (NCBIN:121082, NCBIP:121083)
C;Genetics:
A;Introns: 47/3; 79/3
C;Function:
A;Donadoliberin-associated protein may have prolactin release inhibiting activi;
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid
F;1-33/Donain: signal sequence #status predicted <SIG>F;24-92/Product: gonadoliberin #status predicted <PGN>
F;37-92/Product: gonadoliberin #status predicted <PGN>
F;37-92/Product: gonadoliberin #status predicted <PGN>
F;37-92/Product: prolactin release-inhibiting factor #status predicted <PGN>
F;37-92/Product: prolactin release-inhibiting factor #status predicted <PGN>
F;33/Modified site: pyrrolidone carboxyl end (Gln) (in mature form) #status predicted site: pyrrolidone carboxyl end (Gln) (amide in mature form from following
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Species: Homo sapiens (man)
C;Date: 21-Dec-1996 #sequence_revision
C;Accession: G02127
R;Itoh F - "
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A;Title: Thymocytes express a mRNA that is identical to hypot A;Reference number: A48410; MUID:93105480
A;Accession: A48410
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RESULT
T42382
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R; Itoh, K.; Kawase, M. submitted to the EMBL Data A; Reference number: G09199
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A; Residues: 1-92 <MAI>
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A; Residues: 1-92 < ADE>
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Pred. No.
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                                                                                                                                                                                                         Score 72; DB 2; Pred. No. 1.8;
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                                                                                             -SYGQQPSYGGQQQSYG
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0.19;
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                                                                                                                                                                                     16;
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                                                                    A; Molecule type: DNA
A; Residues: 1-171 <M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Gene:
                                            A;Cross-references: EMBL:U40422; NID:g1065529; PID:g1065532; PIDN:AAA81446.1; CESP:T2
                                                                                                           A; Status: preliminary; translated
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guanylate cyclase (EC 4.6.1.2) 1, retinal - chicken (fragment)
W;Alternate names: guanylyl cyclase; retinal guanylate cyclase 1
C;Species: Gallus gallus (chicken)
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change
C;Accession: T42382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          seminal vesicle secretory protein II precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 08-Mar-1991 #sequence_revision 08-Mar-1991 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A,Title: A null mutation in the photoreceptor guanylate cyclase gene causes the retin A,Reference number: Z22141; MUID:98115910 A,Accession: T42382
                                                             submitted to the EMBL Data Library, November 1975 and the EMBL Data Library, November 1975 and the Sequence of C. elegans
                                                                                                                                                        C;Species: Caenorhak
C;Date: 20-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Reference number: A36443; A; Accession: A36443
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C; Keywords:
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A;Residues: 1-1068 <SEM>
A;Cross-references: EMBL:AF036942; NID:g2828021; PID:g2828022;
A;Experimental source: strain Rhode Island Red; retina-pigment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Semple-Rowland, S.L.; Lee, N.R.; Van Hooser, J.P.; Proc. Natl. Acad. Sci. U.S.A. 95, 1271-1276, 1998
                       A; Reference number: A; Accession: T16933
                                                                                                           R; Martin,
                                                                                                                                C; Accession:
                                                                                                                                                                           hypothetical protein T24D8.5 - Caenorhabditis C; Species: Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:J05443;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
A; Residues: 1-414 <HAR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Title: Structural characterization of the rat seminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Harris, S.E.; Harris, M.A.; Johnson, C.M.;
J. Biol. Chem. 265, 9896-9903, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: preliminary; translated from GB/EMBL/DDBJ
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Best Local
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Best Local
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18; Conserv
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16; Conserv
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MP biosynthesis; glycoprotein; phos
                                             The sequence nber: Z18609
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Pred. No. 3.8;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 71; DB
Pred. No. 1.8;
                                                                                          November 1995
                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
GB/EMBL/DDBC
                                                                                                                                                          20-Sep-1999 #text_change
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3.8;
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A; Map position:
A; Note: TLS is a
C; Keywords: fusi
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R;Rabbitts, T.H.; Forster, A.; Larson, R.; Nathan, P.
Rature Genet. 4, 175-180, 1993
A;Title: Fusion of the dominant negative transcription regulator CHOP with a novel
A;Reference number: S36157
A;Recession: S36158
A;Accession: S36158
A;Molecule type: mRNA
A;Residues: 1-462 <RABD
A;Cross-references: EMBL:X71427; NID:g395919; PIDN:CAA50558.1; PID:e1373214; PID:g4
C;Comment: This sequence is the chimeric product of a translocation mutation.
                                                              R:Rabbitts, T.H.; Forster, A.; Larson, R.; Nathan, Nature Genet. 4, 175-180, 1993
                                                                                               A;Molecule type: mRNA
A;Residues: 1-526 <CRO>
A;Cross-references: GB:S62140; NID:g386156; PIDN:AAB27102.1;
A;Experimental source: liposarcoma
                                                                                                                                                                                          A;Title: Fusion of CHOP to a novel RNA-binding protein A;Reference number: S33798; MUID:93238139 A;Accession: S33799
                                                                                                                                                                                                                                                       C;Species: Homo sapiens (man)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 21-Jul-2000
C;Accession: S33799; S36157
R;Crozat, A.; Aman, P.; Mandahl, N.; Ron, D.
Nature 363, 640-644, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Comment: This sequence
C;Genetics:
A;Gene: GADD153/FUS
                                     Nature Genet. 4, 175-180, 1993
A;Tible: Fusion of the dominant negative transcription regulator CHOP with a
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C;Date: 22-Nov-1993 #sequence_revision 30-Nov-1995 #text_change 20-Apr-2000
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                    A; Reference number: S36157; MUID: 93350637
                                                                                                                                                                                                                                                                                                                                                               RNA-binding protein FUS, nuclear - humans, Alternate names: RNA-binding protein
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A; Residues: 1-462 <CRO>
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A; Accession: S36157
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Crozat, A.; Aman, P.; Mandahl, N.; Ron,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FUS/CHOP mutant fusion protein - human
N;Alternate names: TLS/CHOP mutant fusion protein
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       is a synonym for fusion protein
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Pred.
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No. 0.84;
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3.3;
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                                                                                                                            PID: 9386157
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   myxoid liposarcoma
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C; Function:
A; Description: RNA binding; probable plays a role in transcript.
A; Description: RNA-binding protein EWS; ribonucleoprotein repeat
C; Superfamily: RNA-binding protein EWS; RNA binding; tandem repeat
C; Keywords: carcinogenesis; nucleus; RNA binding; tandem repeat
F; 286-361/Domain: ribonucleoprotein repeat homology <RRM>
                                                                                                                                                                                                                                gonadotropin-releasing hormone - Cichlid (Haplochromis burtoni)
C;Species: Haplochromis burtoni
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change
C;Accession: I50739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    submitted to the EMBL Data Library, A; Reference number: Z21047 A; Accession: T31617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein Y50E8A.m - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Coort-1999 #sequence_revision 29-Oct-1999 #text_change C;Accession: T31617
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A;Molecule type: mRNA
A;Molecule: 1-63,'S',66-526 <RAB>
A;Cross-references: EMBL:X71428; NID:g393415; PIDN:CAA50559.1; PID:g4210363
A;Experimental source: liposarcoma
                                             A;Status: preliminary; translated A;Molecule type: mRNA A;Residues: 1-98 <WHI>
                                                                                                                                                                                  R;White, S.A.; Kasten, T.L.; Bond, C.T.; Adelman, J.P.; Fernald, proc. Natl. Acad. Sci. U.S.A. 92, 8363-8367, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                            밁
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A;Gene: CESP:Y50E8A.
A;Introns: 273/3; 44
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A;Cross-references: EMBL:U31865; NID:g905398; PIDN:AAC59691.1; PID:g905399
C;Superfamily: gonadoliberin
                                                                                                                                       A; Title: Three gonadotropin-releasing hormone genes A; Reference number: I50739; MUID:95396797
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A; Cross-references: EMBL:AL117200; NID:e1549770; PIDN:CAB55056.1; CESP:Y50E8A.m
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273/3; 447/1; 526/1; 735/1; 1247/1; 1418/1; 1494/1; 1753/3
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Query Match

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Length

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R;Livingston, B.T.; Shaw, R.; Bailey, A.; Wilt, F. Dev. Biol. 148, 473-480, 1991

Dev. Biol. 148, 473-480, 1991

A;Title: Characterization of a cDNA encoding a protein involved in formation of the skel A;Reference number: A43900; MUID:92077276

A;Accession: A43900
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A:Introns: 395/2; 450/3; 487/3; 591/1; 602/2
A:Note: T9J22.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hypothetical protein T9J22.9 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 14-May-1999
C;Accession: T00975
R;Rounsley, S.D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, R.C.; Sykes, S.M.; Kaul submitted to the EMBL Data Library, April 1998
A;Description: Arabidopsis thaliana chromosome II BAC T9J22 genomic sequence.
Search completed: March Job time: 262 sec
                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                        A;Cross-references: GB:X59616; GB:S68975; NID:g288149; PID:g288150 A;Note: sequence extracted from NCBI backbone (NCBIN:68975, NCBIP:68978) C;Keywords: tandem repeat
                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-335 <LIV>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      spicule matrix protein LSM34 precursor - sea urchin (Lytechinus pictus) C;Species: Lytechinus pictus (painted urchin) C;Date: 10-Mar-1993 #sequence_revision 18-Nov-1994 #text_change 20-Mar-1998
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A;Experimental source: cultivar Columbia
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A; Residues: 1-705 < ROU>
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A; Accession: T00975
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1; Mismatches
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Database Pending_Patents_AA:*
Database sequences: 957798
Database length: 153513742
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Query length: 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Search time (sec): 459.970000
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-Q-/cgn2_1/USPTO_spool/US09306689/runat_02032001_102826_9576/app_query.fasta_1.2389
-DB=Pending_Patents_AA (DRWT=fastan -SUFFIX=rap -GAPOP=12.000
-GAPEXT=4.000 -MINMATCH=0.100 -LOOPCL=0.000 -LOOPEXT=0.000
-GAPEXT=4.000 -GAPEXT=7.000 -YCAPOP=10.000 -YCAPEXT=0.500
-FGAPOP=6.000 -FGAPEXT=7.000 -YCAPOP=10.000 -YCAPEXT=0.500
-FGAPOP=6.000 -DELEXT=7.000 -YCAPOP=10.000 -YCAPEXT=0.500
-TRANS-human40.cdi -LIST=45 -DCCALIGN=200 -THR_SCORE=PCt
-THR_MX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL -OUTFMT=pfs
-NORM-ext -MINLEN-0 -MAXLEN-200000000
USER-US09306689_@CGN1_1_839 -NCPU=6 -ICPU=3 -LONGLOG -NO_XLPXY
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US-09-306-689-10
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                    101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
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Quality:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Quality: 290.00
Ratio: 5.918
Percent Similarity: 100.000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (650) 325-78: INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/036,883
FILING DATE: 05-FEB-1997
ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 90
REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 325-7812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: MANNS, JOHN G.
APPLICANT: ACRES, STEPHEN D.
TITLE OF INVENTION: IMMUNIZATION AGAINST ENDOGENOUS
TITLE OF INVENTION: MOLECULES
UNMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 49 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
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1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REGISTRATION NUMBER:
                                                                                                                                                                                       GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe
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90 MIDDLEFIELD ROAD, SUITE 200
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seq_name: /cgn2_6/ptodata/2/paa/US092_COMB.pep:US-09-249-447A-7

5.918

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seq_documentation_block:
                        alignment_scores:
                                                                                         ; ORGANISM: GnRH
US-09-305-924-11
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                                                                                                                                       SOFTWARE: PatentIn Ver.
SEQ ID NO 11
LENGTH: 49
TYPE: PRT
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SOFTWARE: PatentIn Ve
SEQ ID NO 7
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                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/305,924A CURRENT FILING DATE: 1999-05-05 EARLIER APPLICATION NUMBER: US 60/084,217 EARLIER FILING DATE: 1998-05-05 NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/09/249,447A CURRENT FILING DATE: 1999-02-12 PRIOR APPLICATION NUMBER: US 60/075,637 PRIOR FILING DATE: 1998-02-23
                                                                                                                                                                                                                                                                                                                                                APPLICANT: Stephen D. Acres
APPLICANT: Richard Harland
TITLE OF INVENTION: METHODS OF RAISING ANIMALS FOR MEAT PRODUCTION
FILE REFERENCE: 9001-0048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: PASSIVE IMMUNIZATION AS A TREATMENT FOR HORMONE TITLE OF INVENTION: DEPENDENT DISORDERS
                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Jack G. Manns
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: Description of Artificial Sequence: GnRH-2, Fig. OTHER INFORMATION: 1B
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Quality:
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290.00
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Length:
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seq_documentation_block:
; Sequence 4, Application US/09383912
; GENERAL INFORMATION:
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                                                                                                               seq_name:
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GENERAL INFORMATION:
APPLICANT: RODBINS, SATAR C.
TITLE OF INVENTION: METHODS FOR SUPPRESSING REPRODUCTIVE BEHAVIOR IN
TITLE OF INVENTION: ANIMALS
FILE REFERENCE: 9001-0047
CURRENT FILING DATE: 1999-05-06
CURRENT FILING DATE: 1999-05-06
EARLIER APPLICATION NUMBER: US/09/306,689B
CURRENT FILING DATE: 1998-06-04
NUMBER OF SEQ ID NOS: 14
COUNTMAND: DEFORTE VICTORIAN OF SEQ ID NOS: 14
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ORGANISM: Artificial Sequence
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APPLICANT:
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                                                                                                             /cgn2_6/ptodata/2/paa/US093_COMB.pep:US-09-383-912-4
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Ratio:
POTTER, ANDREW A.
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5.918
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Percent Identity: 100.000
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NUMBER OF SEQUENCES: 3

ADDRESSEE:

STREET:

285 HAMILTON AVENUE, SUITE 200

REED & ROBINS LLP

PALO ALTO

TITLE OF INVENTION:

MANNS, JOHN G.

GnRH-LEUKOTOXIN CHIMERAS

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alignment_block:
US-09-306-689-10 x US-09-383-912-4
                                                                                                                                                                                 seq_documentation_block:
                                                                                                                                                                                                                      seq_name: /cgn2_6/ptodata/2/paa/US093_COMB.pep:US-09-383-912-10
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                                                                                                                                                              Sequence 10, Application US/09383912
                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
                                  TITLE OF INVENTION: GARH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS;
ADDRESSEE: REED & ROBINS LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                         APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                            101
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                                                                                                                                                                                                                                                                                                                                                                   51 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                                                                                                                                                                                                                                                           1 CAGCATTGGAGCTACGGCCTGCGCCCCTGGCAGCGGTTCTCAAGATTGGAG 50
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NAME: MCCRACKEN, THOMAS P.
NAME: 38,548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
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                 STREET:
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                                                                                                                                                                                                                                                                                            GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                                                                                                                                                                                                                                                                                                      GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe 17
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                                                                                                                                                                                                                                                      Quality:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94301
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: 285 HAMILTON AVENUE, PALO ALTO
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(415)327-3231
TD NO: 4:
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Percent Identity: 100.000
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                   SUITE 200
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alignment_block:
US-09-306-689-10 x US-09-383-912-10
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Ratio: 5.918
Percent Similarity: 100.000
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                                                                                                                                                                                                                                                            Sequence 13, Application US/09305924A GENERAL INFORMATION:
                                     SOFTWARE: P
SEQ ID NO 13
                                                                                                                                                                 APPLICANT: Jack G. Manns
APPLICANT: Stephen D. Acres
APPLICANT: Richard Harland
TITLE OF INVENTION: METHODS OF RAISING ANIMALS FOR MEAT PRODUCTION
FILE REFERENCE: 9001-0048
                                                                     EARLIER APPLICATION NUMBER: US 60/084,217
EARLIER FILING DATE: 1998-05-05
NUMBER OF SEQ ID NOS: 14
                                                                                                                              CURRENT APPLICATION NUMBER: US/09/305,924A CURRENT FILING DATE: 1999-05-05
LENGTH: 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          510 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 9C
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                                                                                                                                                                                                                                                                                                                                                                                                                      101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
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                                                     PatentIn Ver. 2.0
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(415)327-3231
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SYSTEM: PC-DOS/MS-DOS
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Percent Identity:
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US-09-305-924-13

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alignment_block:
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seq_name: /cgn2_6/ptodata/2/paa/US093_COMB.pep:US-09-383-912-16
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US-09-306-689-10 x US-09-306-689-13
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Quality: 290.00
Ratio: 5.918
Percent Similarity: 100.000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: RObbins, Sarah C.
TITLE OF INVENTION: METHODS FOR SUPPRESSING
TITLE OF INVENTION: ANIMALS
FILE REFERENCE: 9001-0047
CURRENT APPLICATION NUMBER: US/09/306,689B
CURRENT FILING DATE: 1999-05-06
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Sequence 13, Application US/09306689B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EARLIER APPLICATION NUMBER: US 60/088,024
EARLIER FILING DATE: 1998-66-04
NUMBER OF SEQ ID NOS: 14
SOPTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Description of Artificial OTHER INFORMATION: defines a leukotoxin GNRH
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TYPE: PRT
ORGANISM: Artificial Sequence
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                                                                                      101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
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                                                                                                                                         25 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA
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                                             rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 57
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seq_documentation_block:
   Sequence 16, Application US/09383912
   GENERAL INFORMATION:
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                                 seq_documentation_block:
                                                                 seq_name: /cgn2_6/ptodata/2/paa/US093_COMB.pep:US-09-383-912-8
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Ratio: 5.918
Percent.Similarity: 100.000
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/383,912
GENERAL INFORMATION:
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APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GRH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,54
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                                                                                                                                                                                     51 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
TOPOLOGY: linear
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               Application US/09383912
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Gaps: 0
Percent Identity: 100.000
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APPLICANT:

MANNS, JOHN G.

APPLICANT: MANNS, C

GRRH-LEUKOTOXIN CHIMERAS

NUMBER OF SEQUENCES:

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seq_name: /cgn2_6/ptodata/2/paa/PCTUS_COMB.pep:PCT-US00-22121-35
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Ratio: 5.918
Percent Similarity: 100.000
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                                                                                                                                                                                                                                        Sequence 35, Application PC/TUS0022121 GENERAL INFORMATION:
FILE REFERENCE: IGN-2004WO
CURRENT APPLICATION NUMBER: PCT/US00/22121
CURRENT FILING DATE: 2000-08-14
PRIOR APPLICATION NUMBER: 09/026,276
PRIOR FILING DATE: 1998-02-19
PRIOR APPLICATION NUMBER: US 09/374,721
PRIOR APPLICATION NUMBER: US 09/374,721
NUMBER OF SEQ ID NOS: 35
                                                                                                                                                                  APPLICANT: Proteinix Company
TITLE OF INVENTION: HEAT SHOCK FUSION-BASED VACCINE SYSTEM
FILE REFERENCE: IGN-2004WO
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FILING DATE:
ATTORNEY_AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
NAME: MCCRACKEN, THOMAS P.
NAME: MCCRACKEN, 38,548
NAME: MCCRACKEN, 38,548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: Floppy disk
COMPOTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                  960 rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 975
                                                                                                                                                                                                                                                                                                                                                                                                                              101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
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APPLICATION NUMBER:
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285 HAMILTON AVENUE, SUITE 200
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; OTHER INFORMATION: Description of Artificial Sequence: polypeptide; OTHER INFORMATION: antigen
PCT-US00-22121-35
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US-09-306-689-10 x PCT-US00-22121-35
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Quality:
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; Sequence 35, Applicati
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LENGTH: 40
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APPLICANT: Tramontano, Alfonso
APPLICANT: Pilon, Aprile L
APPLICANT: Lohnas, Gerald L
APPLICANT: Roberts, Steven F
TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
FILE REFERENCE: U.S. Patent Application No. 09\026,276
CURRENT APPLICATION NUMBER: US/09/026,276
CURRENT FILING DATE: 1998-02-19
NUMBER OF SEQ ID NOS: 35
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TYPE: PRT
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ORGANISM: Artificial Sequence
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                                   51 CTACGGCCTGCGTCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                      1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG 50
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Ratio:
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.GlnHisTrpSerTyrGlyLeuA
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seq_name: /cgn2_6/ptodata/2/paa/US093_COMB.pep:US-09-374-721A-35

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alignment_block:
US-09-306-689-10 x US-09-374-721A-35
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LENGTH: 40
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APPLICANT: Lohnas, Gerald
TITLE OF INVENTION: HEAT SHOCK FUSION-BASED VACCINE
FILE REFERENCE: CIP OF IGN-9601
CURRENT FILING LOATE: US/09/374,721A
CURRENT FILING DATE: 1999-08-13
PRIOR APPLICATION NUMBER: 09/026,276
PRIOR FILING DATE: 1998-02-19
NUMBER OF SEQ ID NOS: 35
COUNTAINE SECOND NOS: 3
                                                                                                                                                                                                                                                                                                              PRIOR FILING DATE: 1998-PRIOR APPLICATION NUMBER: PRIOR FILING DATE: 1999-
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CURRENT FILING DATE: 2000-08-14
PRIOR APPLICATION NUMBER: 09/026,276
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TITLE OF INVENTION: HEAT SHOCK FUSION-BASED VACCINE SYSTEM
FILE REFERENCE: IGN-2004WO
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TYPE: PRT
ORGANISM: Artificial Sequence
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ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                            ENGTH: 41
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UMBER: US 09/374,721
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APPLICANT: Kenten, John H
APPLICANT: Tramontano, Alfonso
APPLICANT: Tramontano, Alfonso
APPLICANT: Lohnas, Gerald L
APPLICANT: Lohnas, Gerald L
APPLICANT: Cohnas, Gerald L
APPLICANT: Roberts, Steven F
ITILE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
FILE REFERENCE: U.S. Patent Application No. 09\026,276
CURRENT APPLICATION NUMBER: US/09/026,276
CURRENT FILING DATE: 1998-02-19
NUMBER OF SEQ ID NOS: 35
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 34
LENGTH: 41
TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  alignment_scores:
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; Sequence 34, Application US/09026276
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq_name: /cgn2_6/ptodata/2/paa/US090_COMB.pep:US-09-026-276-34
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                                                                                        14 rTyrGlyLeuArgProGly.....
                                                                                                             51 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
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rgProGly......GlnHisTrpSerTyrGlyLeuArgProGly 40
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Result
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Listing first 45 summaries
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290
1 QHWSYGLRPGSGSQ
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                                                                                                                                                                                                                                                                                                                                                                                             /SIDSI/gcgdata/geneseq/geneseqp/AA1989.DAT:*
/SIDSI/gcgdata/geneseq/geneseqp/AA1990.DAT:*
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                                                                     Y58363
Y58135
W03943
W79570
W79573
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W79567
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                                                                                                                                                                                                                                                                                             SUMMARIES
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                                                                    GnRH 4-repeat sequ
GnRH-2. Synthetic
Peptide hormone Gn
Four-copy gonadotr
GnRH analogue mult
LKT-GnRH protein f
LKT-GnRH chimeric
                                                                                                                                                                                                                                      Description
LKT-GnRH
LKT-GnRH
                    Gonadotropin relea
LKT-GnRH protein f
                                                    Leukotoxin/gonadot
f protein i
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LHRH-containing	R62717	15	26	22.8	66	
\Box	P80005	9	13		66	
Core polypeptide	Y89788	21	18		66.5	
GnRH-leukotoxin ge	R34547	14	936		67	
E. coli fimbriae	R44953	15	14	23.1	67	
Leuteinising	W69276	19	11		67	
Core polypeptide		21	22		~	
H. burtoni (Ser8)	R75151	16	98	ω	68.5	
Core pol	Y89759	21	26	ω	8	
Plasmid	R11181	12	253	ω	69	
Plasmid	R11177	12	256	4.	70	
E. coli	R44956	15	16		70	
Gonadotropin relea	Y58139	21	17	24.5	71	
GnRH immunomimic	R78282	16	17		71	
Plasmid pBTA737	R11179	12	. 257		72	
	P61427	7	92	6	76.5	
Core polypeptide	Y89763	21	18	26.9	78	
Peptide containing	W21648	18	21		91	
Ubiquitin	Y31177	20	20	5	102	
Luteinising	R07324	11	21		105	
Ubiquitin	Y31179	20	20		105	
Ubiquitin	Y31178	20	20	6.	105	
Antigenic	W47438	19	20	36.2	105	
Plasmid pi	R11185	12	263	7.	107.5	
Ubiquiti	Y31174	20	20	7.	108	
Chicken gonadotrop	Y79308	21	60		149	
Luteinising hormon	R07323	11	30		155	
Peptide	W21649	18	42	56.9	165	
Peptide	W21650	18	44		170.5	
Plasmid	R11186	12	283	۲.	180.5	
Plasmid	R11187	12	323	٠.	187.5	
Ubiquitin	Y31182	20	41		199.5	
Ubiquitin	Y31183	20	40	œ •	199.5	

ALIGNMENTS

MACHINE PRINCE P Key Peptide Leukotoxin; LKT; gonadotropin-releasing hormone; GnRH; fusion protein; immunogen; vaccine; fertility control; contraceptive; sterilisation; pCB113; pCB111. GnRH 4-repeat sequence W03944 standard; Protein; 49 15-AUG-1996 WO9624675-A1 Peptide Peptide Peptide Peptide Peptide Synthetic 20-NOV-1996 W03944; Peptide (first entry) /label= GnRH 37. 30 Location/Qualifiers 1..10 /label= GnRH /label= Spacer /label= GnRH 'label= Spacer /label= 'label= GnRH Spacer A

Manns JG,

Potter AA;

10-FEB-1995; 24-JAN-1996;

95US-0387156 96WO-CA00049

(UYSA-) UNIV SASKATCHEWAN

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Вb
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                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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Best Local
Chimeric protein of leukotoxin and gonadotropin releasing hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat units are separated by spacers designed to increase immunogenicity. The DNA sequence was incoporated into vector pAA352 (ATCC 68283), which contains a truncated leukotoxin gene (LKT 352) derived from Pasteurella haemolytica, to give plasmid pCB113 (T37176). Escherichia cooli transformants produce an LKT-GRH fusion protein (see also W03942 and W03943) useful as a vaccine for fertility control of domestic or farm ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gonadotropin-releasing hormone multimer fusion proteins - with leukotoxin polypeptide for increased immunogenicity, useful in antifertility vaccine prodn.
                            WPI; 1998-159540/14.
N-PSDB; V61529.
                                                                                                                                                                                                                                           Gonadotropin releasing hormone; GnHR; decapeptide; hypothalamus; spacer; LH; luteinising hormone; FSH; follicle stimulating hormone; vertebrate; pyroGlu; chimera; leukotoxin polypeptide; multimer; vaccine; tumour;
                                                                                                                                                                                                                                                                                                                                                                 W79567 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A synthetic DNA sequence (T37178) codes for a gonadotropin releasing hormone (GnRH) tetramer (W03944), in which the 4
                                                                                                                                                                                    WO9806848-A1
                                                                                                                                                                                                                                                                                                                    24-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 2; Fig 1B; 87pp; English.
                                                                                      (UYSA-) UNIV SASKATCHEWAN
                                                                                                              09-AUG-1996;
                                                                                                                                     08-AUG-1997;
                                                                                                                                                              19-FEB-1998
                                                                                                                                                                                                            Synthetic
                                                                                                                                                                                                                                  mmunogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
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DB; T37178.
                                                                JG,
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                                                                Potter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                              96US-0694865
                                                                                                                                     97WO-CA00559
                                                                                                                                                                                                                                                                                                                                                                  Protein; 49 AA
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Pred. No. 1.7e-25;
Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or farm animals.
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Example 1; Fig and cattle

1B;

61pp; English

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Вр
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Best Local Similarity
Matches 49; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vertebrates. This sequence, as compared to the native peptide, has beer found to have an N-terminal Gln rather than a pyroGlu residue, and also contains substitutions at amino acid residues 15 and 41, whereby His is replaced by Asp. This produces an alternating multimeric GnRH sequence which is highly immunogenic that can be used in the construction of a chimeric protein that comprises a leukotoxin polypeptide, several multimers, and the GnRH sequence. The chimeric protein can be used as a vaccine to help reduce the incidence of mammary tumours in a mammalian
                                                          Immunisation against endogenous molecules by administering to ear - useful to elicit efficient and uniform immune responsist e.g. gonadotrophin releasing hormone to immunocastration
                                                                                                                                                                                                                                                                                                                                                                                                                      GnRH; gonadotrophin releasing hormone peptide hormone; leukotoxin; immunisation; endogenous molecule; vaccine; ear; immunogen; carrier; immune response; hormone receptor; cancerous cell; domestic animal; porcine; bovine; luteinizing hormone; follicle stimulating hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present sequence represents a recombinantly produced or chemically synthesised Gonadotropin releasing hormone 2 (GnHR-2) polypeptide, which contains four copies of the GnHR decapeptide (V61528) and triplet amino acid spacers between each of these sequences. This decapeptide is secreted naturally by the hypothalamus which controls release of both the luteinising hormone (LH) and the follicle stimulating hormone (FSH) in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     useful for, e.g. preparation of vaccines for reduction of incidence of mammary tumours in mammals % \left( 1\right) =\left\{ 1\right\} 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      W61542;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    W61542 standard; Protein; 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                N-PSDB;
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                                                                                                                                                                                                                                                                           04-FEB-1998;
                                                                                                                                                                                                                                                                                                           13-AUG-1998.
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                                                                                                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptide hormone GnRH-2 decapeptide (4 copies) fragment
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                                                                                                                                                                              Harland R,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Figure 1B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                            97US-0036883
                                                                                                                                                                                                                                                                             98WO-CA00059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         118pp; English
                                                                                                                                                                               Manns JG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 290; DB 19;
Pred. No. 1.7e-25;
0; Mismatches 0;
                                                                 immunocastrate pigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             has been
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0;

0;

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CC This represents the amino acid sequence of the gonadotrophin releasing CC hormone (GnRH-2) decapeptide fragment used in the chimeric leukotoxin-CC GnRH polypeptide gene fusions. This is used to exemplify the method of CC invention of immunisation against endogenous molecules by administering CC a vaccine which comprises an immunogen and a carrier to the ear of the CC mammal. The method is useful for eliciting an efficient and uniform CC immune response to block or suppress the activity of an endogenous CC hormone, hormone receptor, agonist or antagonist in a vaccinated subject, CC or to elicit an immune response against a targeted endogenous cell type CC (e.g. a cancerous or otherwise diseased cell). It is especially useful to reduce the levels of GnRH in domestic animals, especially in porcine CC revels of luteinizing hormone and follicle stimulating hormone and helps CC in immunocastrating the animal. Administration into the neck increases CC the ear instead of intramuscular administration into the neck increases CC and may increase uniformity of vaccine presentation since the ear is
uniform from animal to animal.
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49 AA;

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δÃ
                                                                                                                                                      밁
                                                                                                                                                                                                         Query Match
Best Local S
Matches 49
                             27-MAR-2000
                                                                                 Y58363 standard; Protein; 49 AA
                                                                                                                                                                                                         Local Similarity
nes 49; Conserv
                                                                                                                                                      ш
                                                                                                                                                                1 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG 49
                                                                                                                                                  qhwsyglrpgsgsqdwsyglrpggssqhwsyglrpgsgsqdwsyglrpg 49
gonadotropin-releasing
                                                                                                                                                                                                         Conservative
                            (first entry)
                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                         0
                                                                                                                                                                                                                     Score 290; DB 19;
Pred. No. 1.7e-25;
                                                                                                                                                                                                         Mismatches
hormone (GnRH) multimer
                                                                                                                                                                                                         0
                                                                                                                                                                                                                                 Length 49;
                                                                                                                                                                                                        Indels
                                                                                                                                                                                                        0,
                                                                                                                                                                                                        Gaps
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0;

GnRH multimer; gonadotropin-releasing immunocontraception; vaccine; feline; canine; equine; cervine; ds hormone; immunosterilisation;

WO9962545-A2

09-DEC-1999

28-MAY-1999; 99WO-CA00493.

04-JUN-1998; 06-MAY-1999; 98US-0088024. 99US-0306689.

(BIOS-) BIOSTAR

WPI; 2000-086857/07

Hormone immunogens, analogues or antibodies used to manufacture vaccines for suppression of reproductive behavior and fertility 'n

Claim Fig 5B; English

This sequence represents a four-copy gonadotropin-releasing hormone (GnRH) multimer, where the second and fourth GnRH shave a His to Asp substitution at position 2 of the GnRh se The invention relates to GnRH immunogens, analogues or anti of the GnRH sequence.

This sequence represents four copies of a gonadotropin releasing hormone (GnRH) analogue, DNA encoding which was used in the construction of a chimeric GnRH-leukotoxin (LKT) fusion gene (246400). This fusion gene encodes a GnRH-LKT fusion

87pp;

English.

Qy В Matches non-androgenic; chimeric; vaccine; testosterone; androgenic; non-androgenic; steroid; reduction; weight gain; muscle distribution; fat distribution; male pattern; boar taint; flavour; impairment; reliable; immunocastration; meat production. C-terminal direction, a synthetic peptide sequence (Y58364), an eight copy GnRH multimer (composed of two copies of the 4xGnRH multimer sequence of y58363), the LKT protein (which functions as a carrier protein), and a second eight copy GnRH multimer. The fusion protein mabe used in a vaccine composition for prepubertal administration to a vertebrate subject to result in prolonged suppression of reproductive behaviour and/or fertility. GnRH immunogens, analogues or antibodies a used to manufacture a composition or vaccine for immunosterilisation of immunocontraception of feline, canine, equine or cervine subjects. Production of uncastrated male food animals using vaccines WPI; 2000-062125/05 Gonadotropin GnRH analogue multimer, containing four copies of the GnRH analogue The vaccines are used to suppress reproductive behaviour and/or fertility for at least 10 months. The prepubertal administration results in a prolonged, long-term suppression of testicular development and/or function in males, or a prolonged, long-term suppression of ovarian development and/or function in females. The methods provide a viable and desirable alternative to surgical forms of sterilisation that Manns (BIOS-) BIOSTAR INC 05-MAY-1998; 05-MAY-1999; 11-NOV-1999 W09956771-A2 07-MAR-2000 Sequence that cross-react with endogenous GnRH of a vertebrate. A specifically claimed immunogenic fusion protein (Y58361) comprises, in the N to Y58135 standard; Protein; 49 Local Similarity 1 qhwsyglrpgsgsqdwsyglrpggssqhwsyglrpgsgsqdwsyglrpg 1 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG currently used. JG, 49; Z46402 Acres SD, 49 Conservative releasing (first entry) A, 98US-0084217. 99WO-CA00360. 100.0%; Harland hormone; GnRH; leukotoxin; LKT; fusion protein; 0; B Score 290; DB 21; Pred. No. 1.7e-25;); Mismatches 0; æ Indels Length 49 49 Gaps a that or 0;

0;

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RESULT
W03943
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein which may be used as a vaccine. The LKT portion of the protein acts to enhance the immunogenicity of the GnRH portion. The invention relates to a method of using two GnRH immunogen vaccines to produce uncastrated male animals for meat production, one vaccination prior to or during the fattening period to reduce Circulating testosterone levels, and the second vaccination about 2-8 weeks before slaughter to substantially reduce androgenic and/or non-androgenic steroids. The invention is used to produce food animals that exhibit the weight gain and muscle/fat distribution of male animals without the problems associated with male animals. Such problems include "boar taint", a urine-like odour found in cooked meat of uncastrated pigs which is caused by steroids stored in the tissues, and similar flavour impairments in the meat of other intact male animals. The invention is
                                       Claim
                                                               Gonadotropin-releasing hormone multimer fusion proteins - wi
leukotoxin polypeptide for increased immunogenicity, useful
antifertility vaccine prodn.
                                                                                                                                                                                                                                                                                                                                         Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           W03943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     W03943 standard;
                                                                                                                    N-PSDB;
                                                                                                                                                                                                                                                                                                  WO9624675-A1
                                                                                                                                                                                                                                                                                                                                                                                                            Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                       Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Leukotoxin; LKT; gonadotropin-releasing hormone; GnRH; fusion protein; immunogen; vaccine; fertility control; contraceptive; sterilisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LKT-GnRH protein fusion from pCB111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                               Manns
                                                                                                                                                                                       (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                  10-FEB-1995;
                                                                                                                                                                                                                                            24-JAN-1996;
                                                                                                                                                                                                                                                                       15-AUG-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 QHWSYGLRPGSGSQDWSYGLRPGSGSQDWSYGLRPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6
                                                                                                                      1996-384447/38.
DB; T37177.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JG,
                                      8; Fig 7A-7E;
                                                                                                                                                                                                                                                                                                                                                                                                                     Pasteurella haemolytica Al strain B122
                                                                                                                                                                                                                                                                                                                                                                                                            synthetic.
                                                                                                                                                               Potter AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               49 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                  95US-0387156
                                                                                                                                                                                                                                            96WO-CA00049
                                                                                                                                                                                                                                                                                                                                        494..
                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protein; 544 AA
                                                                                                                                                                                                                                                                                                                           /label= GnRH_repeat_domain
                                                                                                                                                                                                                                                                                                                                                      /label= LKT
                                      87pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 290; DB 21;
Pred. No. 1.7e-25;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
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chimeric protein (W03943) is composed of a fusion between truncated leukotoxin (LKT-111) from Pasteurella haemolytica

Sequence

544

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RESULT
W79570
Db
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and a 4-copy gonadoliberin-releasing hormone (GnRH) repeat sequence (see also W03944). It is the product of a chimeric gene (T37177) produced by deleting an approx. 1300 bp sequence from pCB113 (see also T37176) coding for amino acids 352-784 of LKT-352. Recombinant plasmid pCB111 (LKT 111:4 copy GnRH, ATCC 69748) was obtd. Escherichia coli transformants produced the chimeric protein, which is useful as a vaccine for fertility control, esp. immunological sterilisation of domestic or farm
                                              which enables there to be an increase in antigen presentation and thus an optimal immune response. The removal of this region also enables the truncated LKT to be expressed at much higher levels and allows the amount of antigen administered to be reduced. This chimeric protein comprises a leukotoxin polypeptide, several multimers, and a GnRH sequence. The chimeric protein can be used as a vaccine to help reduce the incidence of
                                                                                                                                                                                                                                                 Chimeric protein of leukotoxin and gonadotropin releasing useful for, e.g. preparation of vaccines for reduction of of mammary tumours in mammals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chimera; pCB111; LKT 111; GnRH; Gonadotropin releasing hormone; multimer; cytotoxic activity; antigen presentation; immune response; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W79570;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        W79570 standard; Protein; 544
                                                                                                                                              The present sequence represents the LKT GnRH chimeric protein from pCB111. This plasmid contains the LKT 111 polypeptide fused to four copies of the GnRH peptide. This chimera lacks cytotoxic activity
                                                                                                                                                                   The present sequence represents the LKT-GnRH chimeric pCB111. This plasmid contains the LKT 111 polypeptide
                                                                                                                                                                                                                                                                                                                 WPI; 1998-159540/14.
N-PSDB; V61532.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                mammary tumours in a mammalian individual
                                                                                                                                                                                                                Disclosure; Figure 7.1-5; 118pp; English.
                                                                                                                                                                                                                                                                                                                                                                     Manns
                                                                                                                                                                                                                                                                                                                                                                                                                                     09-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9806848-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LKT-GnRH chimeric protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                    (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19-ғев-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         494 qhwsyglrpgsgsqdwsyglrpggssqhwsyglrpgsgsqdwsyglrpg 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7
                                                                                                                                                                                                                                                                                                                                                                     JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             49;
                                                                                                                                                                                                                                                                                                                                                                     Potter AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             544 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                     96US-0694865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97WO-CA00559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 290; DB 17;
Pred. No. 2.3e-24;
0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
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                                                                                                                                                                                                                                                                    incidence
                                                                                                                                                                                                                                                                                  hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
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RESULT
Y58361
ID Y5
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W79573
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                                                                                                               Best Loc
Matches
                                                                                                                                       Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                           The present sequence represents the LKT-GnRH chimeric protein from pCB122. This plasmid contains the LKT 111 polypeptide fused to sixteen copies of the GnRH peptide, in the pattern of: 8 copies of GnRH. This chimera lacks cytotoxic activity which enables there to be an increase in antigen presentation and thus an optimal immune response. The removal of this region also enables the truncated LKT to be expressed at much higher levels and allows the amount of antigen administered to be reduced. This chimeric protein comprises a leukotoxin polypeptide, several multimers, and a GnRH sequence. The chimeric protein can be used as a vaccine to help reduce the incidence of
                                                                                                                                                                                                                                                                                                                                                    Claim 9; Figure 9.1-6; 118pp; English.
                                                                                                                                                                                                                                                                                                                                                                                           Chimeric protein of leukotoxin and gonadotropin releasing useful for, e.g. preparation of vaccines for reduction of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO9806848-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cytotoxic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chimera;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       W79573
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                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19-FEB-1998
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                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                             mammary tumours in mammals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG 49
                                                                ٥
                                                                      1 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGGSGSQDWSYGLRPG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qhwsyglrpgsgsqdwsyglrpggssqhwsyglrpgsgsqdwsyglrpg 542
                                                                                                                                                                                                                                                                                                                                                                                                                                             1998-159540/14.
                                                         qhwsyglrpgsgsqdwsyglrpggssqhwsyglrpgsgsqdwsyglrpg
                                                                                                              th 100.0%; Similarity 100.0%; 49; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      pCB122; LKT 111; GnRH; Gonadotropin releasing hormone; multimer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  chimeric protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             activity; antigen presentation; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein;
                                                                                                                                                                                                   mammalian individual.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              695
                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                             Score 290; DB 19;
Pred. No. 2.9e-24;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 290; DB 19;
Pred. No. 2.3e-24;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                    Length
                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                             57
                                                                                     49
                                                                                                                                      695;
                                                                                                                                                                                                                                                                                                                                                                                           hormone incidence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              vaccine;
                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                             0;
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Y58361 standard; Protein; 695

DЬ

9

qhwsyglrpgsgsqdwsyglrpggssqhwsyglrpgsgsqdwsyglrpg

0

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8X E Y58133 RESULT

Y58133 standard;

Protein; 695

A

10

Y58133;

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δÃ
                                                                                                                    CC This sequence represents a fusion protein comprising gonadotropin-
CC releasing hormone (GnRH) immunogens and a Pasteurella
CC haemolytica leukotoxin (LKT) protein. The fusion protein comprises, in
CC the N to C-terminal direction, a synthetic peptide sequence (Y58364), an
CC eight copy GnRH multimer (composed of two copies of the 4xGnRH multimer
CC sequence of Y58363), the LKT protein (which functions as a carrier
CC protein), and a second eight copy GnRH multimer. The fusion protein may
CC vertebrate subject to result in prolonged suppression of reproductive
CC behaviour and/or fertility. GnRH immunogens, analogues or antibodies
CC that cross-react with endogenous GnRH of a vertebrate subject are used
CC to manufacture a composition or vaccine for immunosterilisation or
CC immunocontraception of feline, canine, equine or cervine subjects.
CC The vaccines are used to suppress reproductive behaviour and/or
CC results in a prolonged, long-term suppression of cresults in a prolonged, long-term suppression of covarian development and/or function in males, or a prolonged, long-term suppression of covarian development and/or function in females. The methods provide a
CC viable and desirable alternative to surgical forms of sterilisation that
                                   Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hormone immunogens, analogues or antibodies used to manufacture vaccines for suppression of reproductive behavior and fertility
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04-JUN-1998;
06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chimeric -
Chimeric -
                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2000-086857/07.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  W09962545-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Leukotoxin; gonadotropin-releasing ho immunocontraception; vaccine; feline;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Leukotoxin/gonadotropin-releasing hormone fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Y58361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (BIOS-) BIOSTAR INC
                                                   Local
 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPG 49
                                   l Similarity
49; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   255700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fig 6A-6F; 88pp;
                                                                                                                  695 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pasteurella haemolytica
                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98US-0088024.
99US-0306689.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99WO-CA00493
                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                English
                                   0;
                                Score 290; DB 21;
Pred. No. 2.9e-24;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hormone; GnRH; immunosterilisation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 canine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              equine; cervine.
                                  Indels
                                                                Length 695;
                                  0;
                                Gaps
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WXX DE XXX
                                                                                                                                                                                                                                                                                                                        RESULT
W03942
                                                                                                                                                                                          В
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                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                               uncastrated male animals for meat production, one vaccination prior to or during the fattening period to reduce circulating testosterone levels, and the second vaccination about 2-8 weeks before slaughter to substantially reduce androgenic and/or non-androgenic steroids. The invention is used to produce food animals that exhibit the weight gain and muscle/fat distribution of male animals without the problems associated with male animals. Such problems include "boar taint", a urine-like odour found in cooked meat of uncastrated pigs which is caused by steroids stored in the tissues, and similar flavour impairments in the meat of other intact male animals. The invention is more reliable than prior art immunocastration techniques.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gonadotropin releasing hormone; GnRH; leukotoxin; LRT; fusion protein antibody; immunogenic; chimeric; vaccine; testosterone; androgenic; non-androgenic; steroid; reduction; weight gain; muscle distribution; fat distribution; male pattern; boar taint; flavour; impairment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This sequence represents a chimeric gonadotropin releasing hormone (GnRH)-leukotoxin (LKT) fusion protein, which may be used as a vaccine. The LKT portion of the protein acts to enhance the immunogenicity of the multimeric GnRH portion (Y58135). The invertelates to a method of using two GnRH immunogen vaccines to produce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Manns
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gonadotropin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-MAR-2000
 Leukotoxin;
                            LKT-GnRH protein fusion from pCB113.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 22;
                                                           20-NOV-1996
                                                                                      W03942;
                                                                                                                 W03942 standard;
                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Production of uncastrated male food animals using vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO9956771-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chimeric -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (BIOS-) BIOSTAR INC
                                                                                                                                              11
                                                                                                                                                                                            φ
                                                                                                                                                                                      2000-062125/05
DB; Z46400.
                                                                                                                                                                                                                                            in 100.0%;
Similarity 100.0%;
49; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fig 3A-3F; 87pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immunocastration; meat production
                                                                                                                                                                                                                                                                                                                     695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Acres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pasteurella haemolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mammalia
LKT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                         (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98US-0084217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99WO-CA00360
                                                                                                                   Protein; 977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SD,
gonadotropin-releasing
                                                         entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Harland
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hormone-leukotoxin fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   English.
                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                               Score 290; DB 21;
Pred. No. 2.9e-24;
Mismatches 0;
 hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LKT; fusion protein;
                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                             695;
                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention
                                                                                                                                                                                                                                                 Gaps
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RESULT
W79569
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ΥX
                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             A chimeric protein (W03942) is composed of a fusion between a truncated leukotoxin (LKT-352) from Pasteurella haemolytica (se also W03945) and a 4-copy gonadoliberin-releasing hormone (GnRH) repeat sequence (see also W03944). It is the product of a chimeric gene (T37176) produced by ligating a synthetic sequence for the 4-copy GnRH into vector pAA352 (ATCC 68283), which carrie the LKT-352 gene. Recombinant plasmid pCBH13 (LKT 352:4 copy GnRH, ATCC 69749) was obtd. Escherichia coli transformants produced the chimeric protein, which is useful as a vaccine for trillty control can be a succine for the control can be control of the chimeric protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gonadotropin-releasing hormone multimer fusion proteins - with leukotoxin polypeptide for increased immunogenicity, useful in antifertility vaccine prodn.
                                                                     Chimera; pCB113; LKT 352; GnRH; Gonadotropin releasing hormone; multimer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chimeric Pasteurella haemolytica Al Chimeric synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            fusion protein; immunogen; vaccine;
contraceptive; sterilisation.
                                                      cytotoxic activity; antigen
                                                                                                    LKT-GnRH
                                                                                                                                24-DEC-1998
                                                                                                                                                                W79569
                                                                                                                                                                                            W79569 standard; Protein; 977 AA
                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Manns JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-JAN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-AUG-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                      domestic or farm animals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO9624675-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                  fertility control, esp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                   927 qhwsyglrpgsgsqdwsyglrpggssqhwsyglrpgsgsqdwsyglrpg 975
                                                                                                                                                                                                                                                                                    1 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1996-384447/38.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7; Fig 5A-5H; 87pp; English
                                                                                                    chimeric
                                                                                                                                                                                                                                                                                                                                                                                                           977 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Potter AA
                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95US-0387156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96WO-CA00049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= LKT
927..977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
1..929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /label= GnRH_repeat_domain
                                                                                                  protein
                                                                                                                                                                                                                                                                                                                                            100.0%; Score 290; DB 17; 100.0%; Pred. No. 4.2e-24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    rotein, which is useful as a vaccine for immunological sterilisation of
                                                      presentation;
                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              strain B122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fertility control;
                                                        immune response;
                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 which carries
                                                                                                                                                                                                                                                                                                    49
                                                                                                                                                                                                                                                                                                                                                              977;
                                                          vaccine;
                                                                                                                                                                                                                                                                                                                                0,:
                                                                                                                                                                                                                                                                                                                                Gaps
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0;

Synthetic

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Best Local
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                                                                                                                                                                        Ubiquitin; immunocastration; fusion protein; heat shock protein; epitope; immune response stimulation; vaccine; T cell; viral; infection; cancer; bacterial; parasitic; treatment; gastrointestinal disease; HIV infection; pulmonary inflection; respiratory infection; scaffold; anti-self; pig; sterilogenesis; gamete maturation; prostate; breast; castration; TNF; tumour necrosis factor; septic shock; arthritis; Crohn's disease; inflammatory bowel disease; ulterative colitis; chorionic gonadotropin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence represents the LKT-GnRH chimeric protein from pCB113. This plasmid contains the LKT 352 polypeptide (W79568) fused to four copies of the GnRH peptide. This chimera lacks cytotoxic activity which enables there to be an increase in antigen presentation and thus an optimal immune response. The removal of this region also enables the truncated LKT to be expressed at much higher levels and allows the amount of antigen administered to be reduced. This chimeric protein comprises a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chimeric protein of leukotoxin and gonadotropin releasing useful for, e.g. preparation of vaccines for reduction of of mammary tumours in mammals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chimeric
                                                                                                                                                                                                                                                                                                  Ubiquitin fusion protein GnRH fragment 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1998-159540/14.
              19-FEB-1998;
                                           26-JAN-1999;
                                                                                                     W09942472-A1
                                                                                                                                 Unidentified
                                                                                                                                                                                                                                                                                                                                  28-0CT-1999
                                                                                                                                                                                                                                                                                                                                                               Y31183
                                                                                                                                                                                                                                                                                                                                                                                           Y31183 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of antigen administered to be reduced. This chimeric protein comprises leukotoxin polypeptide, several multimers, and a GNRH sequence. The chimeric protein can be used as a vaccine to help reduce the incidence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Manns
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09-AUG-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO9806848-A1
                                                                                                                                                             fertility; sperm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     927
                                                                                                                                                                                                                                                                                                                                                                                                                         13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                qhwsyglrpgsgsqdwsyglrpggssqhwsyglrpgsgsqdwsyglrpg 975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               l Similarity
49; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tumours in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Figure 5.1-8; 118pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
llarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA;
              98US-0026276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    96US-0694865
                                           99WO-US01588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97WO-CA00559
                                                                                                                                                             protein; growth rate;
                                                                                                                                                                                                                                                                                                                                                                                           peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mammalian
                                                                                                                                                                                                                                                                                                                                                                                           40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 290; DB Pred. No. 4.2e-
); Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      individual.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  English
                                                                                                                                                            antibody; detection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 977;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hormone
incidence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 incidence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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RESULT Y31182

14

Y31182 standard;

peptide; 41

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1 qhwsyglrpg---qhwsyglrpg---qhwsyglrpg 1 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGGSGSQDWSYGLRPG Matches Query Match

Local Similarity

68.8**%**;

Score 199.5; Pred. No. 1e

le-15;

DΒ

40;

Conservative

0;

Mismatches

2; 20;

Indels Length

9

Gaps

Ψ

49

Ubiquitin 28-OCT-1999

fusion protein GnRH fragment.

(first entry)

Ubiquitin; immunocastration; fusion protein; heat shock protein; epitope;

lation; vaccine; T cell; viral; infection; cancer; treatment; gastrointestinal disease; HIV infection;

id; anti-self; pig;
castration; TNF;

pulmonary inflection; respiratory inflection; scaffold; anti-self;

gamete maturation; prostate; breast;

steridogenesis;

bacterial;

parasitic;

immune

response stimulation; vaccine;

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ability to stimulate an anti-self response provides a simple alternative Ct to physical castration. Immunocastration of pigs is a better alternative to physical castration, as it does not result in any of the detrimental side effects associated with physical castration. Other examples of Ct diseases and conditions treated with self proteins fused with ubiquitin Ct are TNF and its epitopes to modulate septic shock, arthritis, Iq control neavy chain for the control of allergic reactions; chorionic control. A further use of the fusion proteins for fertility control. A further use of the fusion proteins is as part of a vaccine to enhance growth rate and thereby the final weight of the livestock prior can be used to detect and identify antibodies from experimental samples. This sequence represents a GRHH fragment used in the construction of
                                                                                                                                                                                                                                                                                                                                                                                                 used as vaccines to induce an immune response. When a T cell epitope is attached, they can be used for control of viral infections, bacterial infections, parasitic infection and cancer. The fusion proteins can be used in pharmaceutical compositions for the treatment of gastrointestinal diseases, pulmonary inflections, respiratory inflections, and HIV infections. The use of ubiquitin as a scaffold is also useful for the presentation and stimulation of anti-self immune responses, e.g. generation of anti-gonadotropin releasing hormone antibodies which result in the suppression of luteinizing hormone and follicle stimulation hormone. This indirectly suppresses steridogenesis and gamete maturation in males and females. This type of anti-self response in humans is useful in the treatment of prograture concerned beauty.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           when administered to an animal. The protein of the invention may be post-translationally modified (e.g. by the addition of fatty acids to enhance immunogenicity). The fusion proteins of the invention can be
Sequence
                                        a ubiquitin fusion protein described in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Epitope-containing fusion specific immune responses
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                                                                                                                                                                                                                                                                                                                                                                                     the treatment of prostate cancer and breast cancer. In livestock,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     is useful
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Page 43; 67pp;
40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lohnas GL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              n describes a novel fusion protein, comprising a heat shock ubiquitin), fused to an epitope(s) in a defined manner ul for the stimulation of a highly specific immune response
A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pilon
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                                        the method of the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a highly
                                          invention
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RESULT 15
R11187
ID R11167
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R11107 standard; Protein; 323
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                inflammatory bowel disease; ulcerative colitis; chorionic gonadotropin; fertility; sperm protein; growth rate; antibody; detection; GnRH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Epitope-containing fusion proteins used to generate a highly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kenten JH, Lohnas GL,
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                                                                                                                                                          l Similarity
38; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immune responses
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                                                                                                                                                       -qhwsyglrpg---qhwsyglrpg---ghwsyglrpg
                                                                                                                                                                                                                                                                                                           68.8%;
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                                                                                                                                                                                                                                                                          Score 199.5;
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                                                                                                                                                                                                                                                                                                           .1e-15
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                                                                                                                                                                                             Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       plasmid pBTA859 is a TraTp-LHRH analogue fusion in which 8 copies of an LHRH analogue have been inserted between amino acids 200 and 201 of TraTp (Ogata R.T. et al., (1982) J.Bacteriol. 151:819-827). The plasmid was constructed by two successive additions of DNA coding for a dimer of LHRH analogue into the Smal site of pBTA862 (see Q11020) which all ready carries four copies of the LHRH sequence. After transformation, colonies with 8 LHRH molecules were identified. Fusion proteins with multiple inserts generated a higher anti-LHRH response (as measured by the binding of (125)I-LHRH at a serum dilution of 1:2000 final) than constructs with a single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fusion proteins comprising LHRH analogue and TraTp (analogue) useful in vaccine for inhibition or control of reproduction in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-MAR-1991.
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    insert, in outbred mice and dogs. The fusion proteins can inhibit reproductive functions in vertebrates. See also Q10995, Q10997-Q11000, Q11014-Q11020.
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1991-087282/12.
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                                                                                                                                                                                                                                                  Similarity
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                                                                                                                                                                                                                                              64.78;
69.48;
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                         Score
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:/cgn2_6/ptodata/2/paa/US084_COMB.pep: *
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:/cgn2_6/ptodata/2/paa/US086_COMB.pep: *
:/cgn2_6/ptodata/2/paa/US086_COMB.pep: *
:/cgn2_6/ptodata/2/paa/US089_COMB.pep: *
:/cgn2_6/ptodata/2/paa/US091_COMB.pep: *
:/cgn2_6/ptodata/2/paa/US091_NEW_COMB.pep: *
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Copyright (c) 1993 - 2000 Comp
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16
17
  US-09-019-010-4

US-09-249-447A-7

US-09-305-924-11

US-09-306-689-11

US-09-383-912-4
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37.240 Million cell updates/sec
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Sequence 4, Appli
Sequence 7, Appli
Sequence 11, Appl
Sequence 11, Appl
Sequence 4, Appli
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	100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 68.8 68.8 68.8 68.8 68.8
397 397 4411 200 200 200 200 200 200 200 200 200 2	544 695 695 697 977 40 40 41 41 41
55 55 56 57 57 57 57 57 57 57 57 57 57 57 57 57	17 17 17 17 17 17 14 14 17 17 19
08-160-882-45 08-160-882-45 08-160-882-47 -09-506-078-3 -60-120-454-2 -09-506-078-2 -60-120-454-2 -09-506-078-2 -60-120-454-2 -60-120-454-2 -60-120-454-2 -60-120-454-2 -09-374-721A-2 -09-374-721A-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3 -09-026-276-3	\$-09-383-912-\$ \$-09-305-924-\$ \$-09-306-689-\$ \$-09-383-912-\$ \$-09-383-912-\$ \$-09-026-276-\$ \$-09-026-276-\$ \$-09-026-276-\$ \$-09-026-276-\$ \$-09-026-276-\$ \$-09-0374-721A-\$ \$-09-0374
quence 45, paymence 47, paymence 47, paymence 31, equence 25, equence 23, equence 27, equence 26, paymence 26, paymence 26, paymence 26, paymence 26, paymence 10, paymence 10, paymence 10, paymence 10, paymence 10, paymence 31, paymence 31, paymence 31, paymence 31, paymence 31, paymence 11, paymence 11, paymence 12, paymence 12	Sequence 10, Appl Sequence 13, Appl Sequence 13, Appl Sequence 16, Appl Sequence 8, Appl Sequence 35, Appl Sequence 35, Appl Sequence 34, Appl Sequence 34, Appl Sequence 34, Appl Sequence 34, Appl Sequence 15, Appl Sequence 15, Appl

ALIGNMENTS

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RESULT 1

Sequence 4, Application US/09019010
GENERAL INFORMATION:
APPLICANT: MARLAND, RICHARD
APPLICANT: MARLAND, RICHARD
APPLICANT: MARLAND, RICHARD
APPLICANT: MANNS, JOHN G.
CORESSE: TIMUBER OF INVENTION: MOLECULES
NUMBER OF SEQUENCES: 6
CORESSE: ROBINS & ASSOCIATES
STREET: 90 MIDDLEFIELD ROAD, SUITE 200
CITY: MENLO PARK
STATE: CA
COUNTRY: USA
COUNTRY: USA
APPLICATION TYPE: Floppy disk
COMPUTER: READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER: US/09/019,010
FILING DATE: 05-FEB-1998
CLASSIFICATION DATA:
APPLICATION NUMBER: US 60/036,883
APPLICATION NUMBER: US 60/036,883
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FILING DATE: 05-FEB-1997 ATTORNEY/AGENT INFORMATION:

MCCRACKEN, THOMAS P

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INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
1.FNGTH: 49 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: P
SEQ ID NO 7
LENGTH: 49
                                                                                                                                                                             Sequence 11, Application US/09305924A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 49; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: PASSIVE IMMUNICATION: DEPENDENT DISORDERS FILE REFERENCE: 9001-0045
CURRENT APPLICATION NUMBER: US/09/249,447A
CURRENT FILING DATE: 199-02-12
CURRENT FILING NUMBER: US 60/075,637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 7, Application US/09249447A GENERAL INFORMATION:
         APPLICANT: Jack G. Manns
APPLICANT: Stephen D. Acres
APPLICANT: Richard Harland
TITLE OF INVENTION: METHODS OF RAISING ANIMALS FOR MEAT PRODUCTION
FILE REFERENCE: 9001-0048
CURRENT APPLICATION NUMBER: US/09/305,924A
CURRENT FILING DATE: 1998-05-05
PEARLIER APPLICATION NUMBER: US 60/084,217
EARLIER APPLICATION NUMBER: US 60/084,217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US PRIOR FILING DATE: 1998-02-23
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NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
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REFERENCE/DOCKET NUMBER: 9001-0035
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 325-7812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
mes 49; Conserv
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                                                                                                                                                                                                                                                                                                                                                       100.0%; ilarity 100.0%; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description of Artificial Sequence: GnRH-2, Fig 1B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PASSIVE IMMUNIZATION AS A TREATMENT FOR HORMONE
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Pred. No. 4.7e-24;
); Mismatches 0;
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US-09-383-912-4
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Best Local S
Matches 49
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NUMBER OF SEQ ID NOS: 14
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: ROBbins, Sarah C.
TITLE OF INVENTION: METHODS FOR SUPPRESSING REPRODUCTIVE BEHAVIOR IN
TITLE OF INVENTION: ANYMALS
FILE REFERENCE: 9001-0047
                                                                                                                                                                                                                                                                                                                             Sequence 4, Application US/09383912 GENERAL INFORMATION:
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 49
TYPE: PRT
ORGANISM: GNRH
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TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/383,912
                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS LLP
STREET: 285 HAMILTON AVENUE, SUITE 200
                                                                                                                                                                                                                                                                                          APPLICANT: POTTER, ANDREW A. APPLICANT: MANNS, JOHN G.
                                                                                                                                                                                                                                                       TITLE OF INVENTION: GNRH-LEUKOTOXIN CHIMERAS NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity 100. les 49; Conservative
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nes 49; Conserv
                                                                                                                              ZIP: 94301
                                                                                                                                               COUNTRY:
                                                                                                                                                                                  CITY: PALO ALTO
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Pred. No. 4.7e-24;
0; Mismatches 0;
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                                        Version
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CLASSIFICATION: PRIOR APPLICATION DATA:

FILING DATE

APPLICATION NUMBER:

US 08/694,865

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; MOLECULE TYPE: US-09-383-912-10
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Best Local Similarity
Matches 49; Conserv
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                                                                               TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (415)327-323
INFORMATION FOR SEQ ID NO:
                                                                                           REFERENCE/DOCKET NUMBER: 9001-0016.22
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
TELEPAX: (415)327-3231
NFORMATION FOR SEQ ID NO: 10:
                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
                                                                                                                                                                                                                                           PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/383,912
                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GORH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 201
CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Polarian
                                TOPOLOGY:
                                                                                                                                                                              REGISTRATION NUMBER:
                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                                                                                               FILING DATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 94301
                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: REED & ROBINS LLP STREET: 285 HAMILTON AVENUE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 9001-0016.22
                                                                LENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE:
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                                          amino acid
                                                              544 amino acids
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(415)307-3231
(415)307-3231
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                protein
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Pred. No. 4.7e-24;
); Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUITE 200
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Вb
                                                                                                                                                        ; FEATURE; OTHER INFORMATION: Description of Artificial Sequence: Sequence; OTHER INFORMATION: defines a leukotoxin GnRH chimera US-09-306-689-13
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; ORGANISM: GnRH
US-09-305-924-13
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Matches
                                                                                                                                                                                                                          SEQ ID NO 13
LENGTH: 695
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 13, Application US/09306689B GENERAL INFORMATION:
                                                                                       Query Match
Best Local
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                                                                     Matches
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                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/306,689B CURRENT FILING DATE: 1999-05-06
                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: RODDINS, Sarah C.
TITLE OF INVENTION: METHODS FOR SUPPRESSING REPRODUCTIVE BEHAVIOR IN
TITLE OF INVENTION: ANIMALS
                                                                                                                                                                                                                                                                                                                 EARLIER APPLICATION NUMBER: US 60/088,024
EARLIER FILING DATE: 1998-06-04
NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/305,924A
CURRENT FILING DATE: 1999-05-05
EARLIER APPLICATION NUMBER: US 60/084,217
EARLIER FILING DATE: 1998-05-05
                                                                                                                                                                                                                                                                                                                                                                                                       FILE REFERENCE: 9001-0047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Stephen D. Acres
APPLICANT: Richard Harland
                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn Ver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: METHODS OF RAISING ANIMALS FILE REFERENCE: 9001-0048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
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Local Similarity 100.0%;
nes 49; Conservative 0
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                                                                      1 Similarity
49; Conserv
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                                                                   Score 290; DB 17;
Pred. No. 6.4e-23;
; Mismatches 0;
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Pred. No. 6.4e-23;
; Mismatches 0;
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                                                                                                    Length 695;
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Query Match

100.0%;

Score 290;

DB

17;

Length 544;

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                                                                                                                                                                                                                                                                        Sequence 8, Application US/09383912
GENERAL INFORMATION:
APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
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Best Local S
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INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Re-lease #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: POTTER, ANDREW A.
APPLICANT: MANNS, JOHN G.
TITLE OF INVENTION: GRH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
                                                                                                                                                                                                        TITLE OF INVENTION: GRRH-LEUKOTOXIN CHIMERAS
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
ADDRESSEE: REED & ROBINS LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA: APPLICATION NUMBER:
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                                                                                                                                                                    STREET: 285 HAM:
CITY: PALO ALTO
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CITY: PALO ALTO
STATE: CA
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 APPLICATION NUMBER:
                                                                                                                                       COUNTRY:
                                                                                                                                                         STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
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                                                                                                                       94301
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                                                                                                                                       USA
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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US/09/383,912
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Pred. No. 6.4e-23;
; Mismatches 0;
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; TOPOLOGY: linear; MOLECULE TYPE: protein US-09-383-912-8
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                                                                                                  US-09-026-276-35
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LENGTH: 40
                                                                  Sequence 35, Applicat GENERAL INFORMATION:
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Best Local Similarity
Matches 38; Conserv
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Best Local Similarity
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CURRENT APPLICATION NUMBER: PCT/US00/22121
CURRENT FILING DATE: 2000-08-14
APPLICANT: Tramontano, Alfonso
APPLICANT: Pilon, Aprile L
APPLICANT: Lohnas, Gerald L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: PRIOR FILING DATE: 1998-(PRIOR APPLICATION NUMBER:
                                                 APPLICANT: Kenten, John H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR FILING DATE: 1
NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Proteinix Company TITLE OF INVENTION: HEAT SHO FILE REFERENCE: IGN-2004WO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 9001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)327-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (415)327-3231
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
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APPLICATION NUMBER:
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CLASSIFICATION:
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PatentIn Ver. 2.0
                                                                                  Application US/09026276
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                                                                                                                                                                                                                                                      68.8%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SHOCK FUSION-BASED VACCINE SYSTEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US 09/374,721
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Pred. No. 1.6e-14;
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Roberts, Steven F

TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM FILE REFERENCE: U.S. Patent Application No. 09\026,276

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CURRENT APPLICATION NUMBER: U5/09/026,276
CURRENT FILING DATE: 1998-02-19
RUMBER OF SEQ ID NOS: 35
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 35
LENGTH: 40
TYPE: PRT
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Best Local Similarity
""" hes 38; Conserv
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                                           APPLICANT: Protein's Company
TITLE OF INVENTION: HEAT SHOCK FUSION-BASED
FILE REFERENCE: ICN-2004NO
CURRENT APPLICATION NUMBER: PCT/US00/22121
CURRENT FILING DATE: 2000-08-14
PRIOR APPLICATION NUMBER: 09/026,276
PRIOR FILING DATE: 1998-02-19
PRIOR FILING DATE: 1998-02-19
PRIOR FILING DATE: 1998-02-13
PRIOR FILING DATE: 1999-08-13
NUMBER OF SEO ID NOS: 35
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PCT-US00-22121-34
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US-09-026-276-35
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TITLE OF INVENTION: HEAT SHOCK FUSION-BASED VACCINE SYSTEM
FILE REFERENCE: CIP OF IGN-9601
CURRENT APPLICATION NUMBER: US/09/374,721A
CURRENT FILING DATE: 1999-08-13
PRIOR APPLICATION NUMBER: 09/026,276
PRIOR FILING DATE: 1998-02-19
NUMBER OF SEQ ID NOS: 35
SOFTWARE: PALENTIN Ver. 2.0
SEQ ID NO 35
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GENERAL INFORMATION:
APPLICANT: Kenten, John H.
                                                                                                                                                                                                            Sequence 34, Application PC/TUS0022121 GENERAL INFORMATION:
SEQ ID NO 34
LENGTH: 41
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Best Local Similarity
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APPLICANT:
                               SOFTWARE:
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TYPE: PRT
ORGANISM: Artificial Sequence
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                               PatentIn Ver. 2.0
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77.6%;
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77.6%;
                                                                                                                                                                              SHOCK FUSION-BASED VACCINE SYSTEM
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Pred. No. 1.6e-14;
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Pred. No. 1.6e-14;
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; SEQ ID NO 34
; LENGTH: 41
; TYPE: PRT
; ORGANISM: POTCINE
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US-09-026-276-34
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Search completed: March Job time: 374 sec
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PCT-US00-22121-34
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                                                                                                                                            Matches
                                                                                                                                                        Query Match
Best Local Similarity
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Best Local Similarity
                                                                                                                                                                                                                                                                                                             APPLICANT: Tramontano, Alfonso
APPLICANT: Pilon, Aprile L
APPLICANT: Lohnas, Gerald L
APPLICANT: Roberts, Steven F
TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
FILE REFERENCE: U.S. Patent Application No. 09\026,276
CURRENT APPLICATION NUMBER: US/09/026,276
CURRENT FILING DATE: 1998-02-19
NUMBER OF SEQ ID NOS: 35
                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Kenten, John H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                            1 QHWSYGLRPGSGSQDWSYGLRPGGSSQHWSYGLRPGSGSQDWSYGLRPG 49
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seg length:
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1: /cgn2_6/ptodata/2,
2: /cgn2_6/ptodata/2,
3: /cgn2_6/ptodata/2,
4: /cgn2_6/ptodata/2,
5: /cgn2_6/ptodata/2,
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Match Length
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Copyright (c) 1993 - 2000 Compugen Ltd.
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/cgn2_6/ptodata/2/iaa/COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
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US-08-103-022-1
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US-08-127-351-6
US-08-123-374-8
US-08-193-374-8
US-08-480-367B-6
US-08-480-367B-6
US-08-480-371-6
US-08-480-371-6
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 Sequence 9, Appli
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Sequence 22, Appli
Sequence 3, Appli
Sequence 11, Appli
Sequence 3, Appli
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2 HWSYXLRPG HWSYGLRPG

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Query Match 87.9%; Score 51; DB Best Local Similarity 88.9%; Pred. No. 0.00 Matches 8; Conservative 0; Mismatches	RESULT 1 US-07-714-540-9 Sequence 9, Application US/07714540 Patent No. 5262531 GENERAL INFORMATION: APPLICANT: Almquist, Ronald G. APPLICANT: TO11, Lawrence TITLE OF INVENTION: ISOLATED ATRIAL PEPTID NUMBER OF SEQUENCES: 13 CORRESPONDENCE ADDRESS: ADDRESSE: Irell & Manella STREET: 545 Middlefield Road, Suite 200 CITY: Menlo Park STATE: California COUNTRY: USA ZIP: 94025 COMPUTER READABLE FORM: MEDIOM TYPE: Floppy disk COMPUTER: IBM PC Compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version CURRENT APPLICATION DATA: APPLICATION UNMBER: US/07/714,540 FILING DATE: 19910607 CLASSIFICATION: 530 ATTORNEY/AGENT INFORMATION: NAME: Reed, Dianne E. REGISTRATION UNMBER: 8500-0135.00 TELECOMMUNICATION INFORMATION: TELECOMMUNICATION INFORMATION: TELECOMMUNICATION INFORMATION: TELECOMMUNICATION INFORMATION: TELECOMMUNICATION INFORMATION: SEQUENCE CHARACTERISTICS: LENGTH: 10 amino acids TYPE: AMINO ACID STRANDEDENESS: Single TOPOLOGY: linear MOLECULE TYPE: protein	29 51 87.9 10 1 US-08-387-156-2 30 51 87.9 10 1 US-08-474-555-1 31 51 87.9 10 1 US-08-446-692-1 32 51 87.9 10 1 US-08-242-678D-1 33 51 87.9 10 1 US-08-242-678D-1 34 51 87.9 10 2 US-08-694-865-2 35 51 87.9 10 2 US-08-694-865-1 37 51 87.9 10 2 US-08-694-865-1 38 51 87.9 10 2 US-08-447-175A-6 40 51 87.9 10 2 US-08-447-175A-6 40 51 87.9 10 2 US-08-47-175A-6 41 51 87.9 10 3 US-08-521-079-4 42 51 87.9 10 3 US-08-521-079-6 44 51 87.9 10 3 US-08-521-079-6 45 51 87.9 10 3 US-08-521-079-6 46 51 87.9 10 3 US-08-521-079-6 47 51 87.9 10 3 US-08-521-079-6 48 51 87.9 10 3 US-08-521-079-8 49 51 87.9 10 3 US-08-521-079-8 40 51 87.9 10 3 US-08-521-079-8 41 51 87.9 10 3 US-08-521-079-8 42 51 87.9 10 3 US-08-521-079-8 43 51 87.9 10 3 US-08-521-079-8 44 51 87.9 10 5 5492893-1
B 1; Length 10; 00095; 1; Indels 0; Gaps 0;	PEPTIDE-DEGRADING COMPOUNDS USEFUL AS INHIBITORS THEREOF e 200 ersion #1.25	Sequence 2, Appli Sequence 1, Appli D-1 Sequence 1, Appli D-7 Sequence 1, Appli Sequence 7, Appli Sequence 7, Appli Sequence 2, Appli Sequence 18, Appli Sequence 11, Appli Sequence 11, Appli Sequence 2, Appli Sequence 3, Appli Sequence 4, Appli Sequence 6, Appli Sequence 6, Appli Sequence 6, Appli Sequence 8, Appli Sequence 8, Appli Sequence 8, Appli Sequence 8, Appli

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Best Local
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 16786/148 CHAC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
                                                                                                                                                    APPLICANT: RUSSELL-JONES, Gregory J. APPLICANT: STEWART, Andrew G. APPLICANT: TSONIS, Con G. APPLICANT: TSONIS, CON G. FUSION PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: PCT/AU90/00373
FILING DATE: 24-AUG-1990
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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ADDRESSEE: Foley & Lardner
 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION DATA:
                                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                                                      NUMBER OF SEQUENCES:
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                                                                   CITY: Washington, D.C.
                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
les 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                               COUNTRY:
                                                                                    STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
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Floppy disk
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Pred. No. 0.
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Best Local Similarity
Thes 8; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1, Applic Patent No. 5413990
             TELEFAX: (708) 938-2623 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (202)672-539 INFORMATION FOR SEQ ID NO:
                                                               NAME: Janssen, Jerry F.
REGISTRATISSEN, VINTER: 29,175
REFERENCE/DOCKET NUMBER: 53
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/AU90/00373
FILING DATE: 24-AUG-1990
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn Rel
CURRENT APPLICATION DATA:
                                                                                                                                                                                                           SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION: TELEPHONE: (202)672-5300
SEQUENCE CHARACTERISTICS:
                                                                                                                                        CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: N-Terminus Modified Analogs of LHRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Edward H. Gorman, Jr., Dept. 377
STREET: Abbott Laboratories, One Abbott Park Road
CITY: No. 5413990th Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: BENT, Stephen A. REGISTRATION NUMBER: 29, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                           APPLICATION NUMBER: FILING DATE: 05-OCT
                                                                                                                                                                                                                                                                                                                           ZIP:
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TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                  TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH:
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                                                                                                                                                                                                                                                                                                                         60064-3500
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                                                                                                                                                                                                                                                                                                                                                           I
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (202)672-5399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mort, Nicholas A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Swenson, Rolf E.
Nichols, Charles J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fitzpatrick, Timothy D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Haviv, Fortuna
                                                  (708) 938-7742
                                                                                                                                                                           05-OCT-1993
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88.9%;
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Pred. No.
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                                                                                                                                                                 TELEPHONE: (703) 413-3000
TELEPAX: (703) 413-2220
TELEX: 24885 OPAT UR
INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Villacorta, Gilberto M.
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 4980-004-44
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 413-3000
                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: BELINKA Jr, BENJAM:
APPLICANT: COUGHLIN, DANIEL J
APPLICANT: ALVAREZ, VERNON L.
APPLICANT: WOOD, RICHARD
                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: METAL-BINDING TARGETED POLYPEPTIDE TITLE OF INVENTION: CONSTRUCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
                                                                                    MOLECULE TYPE: peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: peptide
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OTHER INFORMATION:
OTHER INFORMATION:
 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/0 FILING DATE: 28-SEP-1993 CLASSIFICATION: 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Arlington
STATE: Virginia
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                                                 NAME/KEY: Modified-site
                                                                                                     TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
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                                   LOCATION:
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8; Conserv
                                                                                                                  amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Application US/08127351
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Virginia
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1755 S. Jefferson Davis Highway, Suite 400
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                    unknown
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88.9%;
/note= "Position 6 may be either
Gly or D-Trp."
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5-oxo-prolyl aminoacyl residue."
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                                                                                                                                                                                                                                                                                                                                                        US/08/127,351
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Pred. No.
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US-08-184-935-6
; Sequence 6, Application US/08184935
; Patent No. 5476770
; GENERAL INFORMATION:
                                                  US-08-193-374-3
Sequence 3, Application US/08193374;
Patent No. 5487898
GENERAL INFORMATION:
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Best Local Similarity
"hes 9; Conserva
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                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5476770man F.
REGISTRATION NUMBER: 24.618
REFERENCE/DOCKET NUMBER: 846-286
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 413-3000
TELEPAX: (703) 413-220
TELEPAX: (703) 413-220
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                   Matches
APPLICANT: Fu Lu, Mou-Ying APPLICANT: Reiland, Thomas TITLE OF INVENTION: Compos-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: PRADELLES, PHILIPPE
TITLE OF INVENTION: IMMUNOMETRIC DETERMINATION OF
TITLE OF INVENTION: OR HAPTEN
                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                               NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/0 FILING DATE: 24-JAN-1994 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
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ZIP: 22202
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                                                                                                                                                                                                                                 Local Similarity les 8; Conserv
                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: /note=
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: P.C.
                                                                                                                                                                  N
                                                                                                                                                                                                 2 HWSYXLRPG 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 HWSYXLRPG 10
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amino acid
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                                                                                                                                                                                                                                                                                                                                                                                               peptide
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 Thomas L.

Compositions and Method for the
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100.0%; Pred. No. 0.00095;
Mismatches 0;
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Pred. No.
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                                                                                                                                                                                                                  Sequence 8, Application US/08193374 Patent No. 5487898
                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (708) 938-2623 NFORMATION FOR SEQ ID NO:
                                                                                                                APPLICANT: Fu Lu, Mou-Ying
APPLICANT: Reiland, Thomas L.
TITLE OF INVENTION: Compositions and Method for the
TITLE OF INVENTION: Sublingual or Buccal Administration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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NUMBER OF SEQUENCES:
                                                                                                     TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Janssen, Jerry F.
REGISTRATION NUMBER: 29,175
REFERENCE/DOCKET NUMBER: 48.
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 30-NOV-1992
ATTORNEY/AGENT INFORMATION:
NAME: Janssen, Jerry F.
                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
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LOCATION: 6
OTHER INFORMATION:
OTHER INFORMATION:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release "."
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OTHER INFORMATION: /note= "XAA at position 1 is
OTHER INFORMATION: 5-oxoprolyl residue."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 07 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Abbott Park
COUNTRY: USA
                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: Modified-site
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                                                                     ADDRESSEE:
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                               Abbott Park
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                                                  Abbott Laboratories,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ະຣຣ: single
linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                   Edward H. Gorman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (708) 938-7742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                      87.9%; Score 51; 100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "XAA at position 6 is
D-tryptyl residue."
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ON: *
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                                                  Jr., Dept. 377 - AP6D
One Abbott Park Road
                                                                                                                                                                                                                                                                                                                                                                                                                    DB 1; I
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                                                                                                                      of Therapeutic Agents
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                                                                                                                                                                                                                                                                                                                       Sequence 1, Application US/08343883 Patent No. 5573767
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Best Local 9
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: JAINSEN, JETTY F.
REGISTRATION NUMBER: 29,175
REFERENCE/DOCKET NUMBER: 48
TELECOMMUNICATION INFORMATION:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07 / 983,111
FILING DATE: 30-NOV-1992
                                                                                                                                                                            TITLE OF INVENTION:
                                                                                                                                                                                                            TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                             NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                             APPLICANT:
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                                                                          STREET: 727 Twent
CITY: Arlington
STATE: Virginia
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                                                   COUNTRY:
ZIP: 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCATION: 6
OTHER INFORMATION:
OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: FILING DATE: 07-FEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC Compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY:
                                                                                                                                ADDRESSEE:
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                                                                                                              E: Larson and Taylor
727 Twenty-Third Street, South
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                                                                                                                                                                                                                                                                          Dufour,
Roulet,
                                                                                                                                                                                                                         Chouvet, Claire D.
Bonneau, Michel B.
VENTION: Method for improving the organoleptic
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                                                                                                                                                                                                                                                                          Raymond J. Claude J.M.
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                                                                                                                                                                  peptide, in particular for producing these vaccines...
                                                                                                                                                                                             qualities of the meat animals, vaccines which
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5-oxoprolyl residue."
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D-3-(naphth-2-yl)alanyl residue."
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                                                                                                                                                                                              vaccines which are usable in this
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0;
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; RELEVANT RESIDUES IN SEQ ID NO: US-08-343-883-1
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                                                                                                                                                                                                                                                                                                         Matches
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                                                                                                                                               GENERAL INFORMATION:
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OTHER INFORMATION:
FEATURE:
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APPLICATION NUMBER: US 07/946,495
FILING DATE: 09-NOV-1992
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
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                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PUBLICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: peptide
                                             NUMBER OF SEQUENCES:
                                                         TITLE OF INVENTION: METAL-BINDING TARGETED POLYPEPTIDE TITLE OF INVENTION: CONSTRUCTS
                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                         Local Similarity
nes 8; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: FR 9 FILING DATE: 01-MAR-1991
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: Peptide
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Schally, A. V.
Structure of the porcine LH- and
Structure of the porcine II- and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence
                                                                                    COUGHLIN, DANIEL J
ALVAREZ, VERNON L.
WOOD, RICHARD
                                                                                                                                                                                                                                                                                                                                                                                                                          1334-1339
:: LOWE, PRICE, LeBLANC & BECKER 99 Canal Center Plaza, Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G. Nair, R. M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Baba,
                                                                                                                                BELINKA Jr, BENJAMIN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biochem. Biophys. Res. Commun
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                                                                                                                                                                                                                                                                                                         Conservative
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                                                                                                                                                                                                                                                                                                                      87.98;
88.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label= '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label= pyro
/note= "pyroglutamic acid"
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                                                                                                                                                                                                                                                                                                                      Score 51;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                      Sequence 5, Application US/08000931 Patent No. 5578477
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
ATTORNEY/AGENT INFORMATION:
NAME: BENF, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 64
                                                                                                          CURRENT APPLICATION DATA:
                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION: TELEPHONE: (703) 684-1111
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                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE:
                                                          APPLICATION NUMBER: FILING DATE: 05-JAN-CLASSIFICATION: 435
                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCATION: 6
OTHER INFORMATION: /note= "Position 6 may be either OTHER INFORMATION: Gly or D-Trp."
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CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US
FILING DATE: 07-06-95
                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                          CITY:
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                                                                                                                                                                                                                                                       STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
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9; Conservative
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Tamanon Dr., Fuyuhiko
IDENTIFICATION AND CHARACTERIZATION OF
NVENTION: IDENTIFICATION AND CHARACTERIZATION OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (703)
                                                                                                                                                                                                                           USA
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64098/102/ARDE
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                                                                                                                                                                                                                                                         Suite 500
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INFORMATION FOR SEQ ID NO:

<u>ب</u>

TELEPHONE: TELEFAX: () TELEX: 904

904136

: (202)672-5300 (202)672-5399

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Best Local Similarity
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-487-221A-6
                                                                                                                                          REFERENCE/DOCKET NUMBER: 4980-004-44
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 413-3000
TELEFAX: (703) 413-2220
TELEFAX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS
LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 0: FILING DATE: 28-SEP-1993 ATTORNEY/AGENT INFORMATION: NAME: Villacorta, Gilber
                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/487,221A
FILING DATE: 07-JUN-1995
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: WOOD, RICHARD TITLE OF INVENTION: METAL-BIND TITLE OF INVENTION: CONSTRUCTS
                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 5
                                                                                            MOLECULE TYPE:
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TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 1755 S. CITY: Arlington STATE: Virginia
 OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                            REGISTRATION NUMBER: 34,038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
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                                     DECATION:
                                                                                                               TOPOLOGY:
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                                                        NAME/KEY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22202
                                                                                                           amino acid
GY: unknown
                                                                                                                                                                                                                                                                                                              Villacorta, Gilberto M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: OBLON, SPIVAK, MCCLELLAND, MAIER & E: NEUSTADT, P.C. 1755 S. Jefferson Davis Highway, Suite 400
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                                                        Modified-site
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88.9%;
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/note= "Position 6 may be either
Gly or D-Trp."
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Pred. No. 0.00095;
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2 HWSYXLRPG 10

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Query Match
Best Local Similarity
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                                                                               ; OTHER INFORMATION: ; OTHER INFORMATION: US-08-480-370-6
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Best Local Similarity
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS
                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US 08/127, FILING DATE: 28-SEP-1993 ATTORNEY/AGENT INFORMATION: NAME: Villacorta, Gilberto M.
                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn Rel. CURRENT APPLICATION DATA:
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                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
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                                                                                                                                                                 MOLECULE TYPE:
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                                                                                                                          NAME/KEY: Modified-site LOCATION: 6
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REFERENCE/DOCKET NUMBER: 4980-004-44
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                                                                                                                                                                                            amino acid
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1755 S. Jefferson Davis Highway, Suite 400
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""PEZ, VERNON L.
              Conservative
                                                                                                                                                                                  unknown
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                                                                                                                                                                                                                                                                              (703) 413-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OBLON,
                                                                                                                                                                  peptide
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                                                                                              /note= "Position 6
Gly or D-Trp."
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                          100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        METAL-BINDING TARGETED POLYPEPTIDE
                                                                                                                                                                                                                                                                                                                                                                               US 08/127,351
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Release #1.0, Version #1.25
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                           Score 51; DB 1;
Pred. No. 0.000
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Pred. No.
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                                          Length 10;
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2 HWSYXLRPG 10

Sequence 22,

Application US/08428488

Patent No. 5624894
GENERAL INFORMATION:

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OTHER INFORMATION: /note= "Position 10 = Gly-NH2
US-08-428-488-22
                                                                                                                                           US-08-341-219-11
                                                                                            Sequence 11, Application US/08341219
Patent No. 5643877
GENERAL INFORMATION:
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Best Local :
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INFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
                                                              APPLICANT:
APPLICANT:
                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 02
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 836-6620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Baumeister, Mary Katherine
REGISTRATION NUMBER: 26,254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                APPLICANT:
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ITLE OF INVENTION: Compounds and Methods For Controlling
                                                                                                                                                                                                                                                                                         Local
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CITY: Alexandria
STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
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8; Conser
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                                               Rivier, J. Powell, J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BODOR, Nicholas S.
VENTION: BRAIN-ENHANCED DELIVERY OF NEUROACTIVE PEPTIDES BY SEQUENTIAL METABOLISM
               Sherwood, N. Gothilf, Y.
                                                                                Zohar, Y
                                                                                                                                                                                                                                                                             Conservative
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88.9%;
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Pred. No. 0.00095;
0; Mismatches 1;
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Search completed: March Job time: 601 sec

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                                                                                                                                    US-08-341-219-11
                                                         Query Match
Best Local S
Matches 8
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INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 83
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Relaction DATA:
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                                                                                                                                                                                                                                                                                                                                             HYPOTHETICAL:
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NAME: COruzzi,, Laura A.
REGISTRATION NUMBER: 30742
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION:
NUMBER OF SEQUENCES:
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                                                                                                                                                OTHER INFORMATION:
OTHER INFORMATION:
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OTHER INFORMATION:
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OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                            NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
STRANDEDNESS: not
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                   NAME/KEY: Modified-site
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2 HWSYGLRPG
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                            2 HWSYXLRPG 10
                                                         Similarity
8; Conserv
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1155 Avenue of the Americas
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NO
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                                                                                                                                                                                                                                                                                                                                                                                            not relevant
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                                                                      87.9%;
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                                                                                                                                                                                                                                     /label= Glu1
/note= "=pyroglutamic acid"
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/label= Gly10
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                                                        Score 51; DB 1; Le
Pred. No. 0.00095;
0; Mismatches 1;
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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:/cgn2_6/ptodata/2/paa/US085_COMB.pep:*
:/cgn2_6/ptodata/2/paa/US086_COMB.pep:*
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/cgn2_6/ptodata/2/paa/US07_COMB.pep:*
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10 10 10	
20 20 1	8
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Sequence 160, App Sequence 139, App Sequence 153, App Sequence 28, Appl Sequence 32, Appl	Description

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Sequence 1, App	equence 11, App	equence 7, Appl	uence 6	nce 1, Appl	equence 20, App	nce 16,	equence 12, App	nce 11, App	nce 4, Appl	equence 1,	nce 9, Appl	equence 9, Appl	equence 5, Appl	equence 22, Ap	equence 1, Appl	equence 1, Appl	equence 1, Appl	equence 14,	equence 1, Appl	equence 77, App	equence 28, App	equence 1344,	equence 1309,	equence 1143, A	equence 13	e 10, App	equence 9, Appl	e 8, Appl	equence 7. App	equence 3. Appl	equence 9 April	equence	equence 7, Appl	equence 3, App	equence 2, Appl	equence 3, App	ce 5, App	quence 4, Ap	equence 1, App	

ALIGNMENTS

US-09-657-276-160 SOFTWARE: Par ; SEQ ID NO 160 Sequence 160, Applic GENERAL INFORMATION: PRIOR APPLICATION NUMBER: 60/134,406
PRIOR FILING DATE: 1999-05-17
PRIOR REPLICATION NUMBER: 60/153,406
PRIOR FILING DATE: 1999-09-10
PRIOR APPLICATION NUMBER: 60/159,783
PRIOR FILING DATE: 1999-10-18
PRIOR FILING DATE: 1999-10-18
PRIOR FILING DATE: 1999-10-18
PRIOR FILING DATE: 1999-10-18 APPLICANT: Thibaudeau, Karen
TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM
TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD
TITLE OF INVENTION: COMPONENTS
FILE REFERENCE: 2110 CURRENT APPLICATION NUMBER: US/09/657,276
CURRENT FILING DATE: 2000-09-07 APPLICANT: APPLICANT: APPLICANT: ORGANISM: Artificial Sequence LENGTH: PatentIn Ver. Bridon, Dominique Ezrin, Alan Milner, Peter Holmes, Darren Conjuchem, Inc. Application US/09657276

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Query Match
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; OTHER INFORMATION: Description of Artificial Sequence: Synthetic; OTHER INFORMATION: Peptide
US-09-657-276-160
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                           APPLICANT: Thibaudeau TITLE OF INVENTION: FITTLE OF INVENTION: FITTLE OF INVENTION:
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APPLICANT:
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PRIOR FILING DATE: 1999-10-18
NUMBER OF SEQ ID NOS: 1617
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CURRENT FILING DATE: 2000-09-07
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CURRENT APPLICATION NUMBER: US/09/657,276
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                                                                              Milner, Peter
Holmes, Darren
Thibaudeau, Karen
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Holmes, Darren
Thibaudeau, Karen
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Ezrin, Alan
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Ezrin, Alan
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                                             PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD
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Pred. No. 8.3e+05;
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Best Local Similarity
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LENGTH: 9
                                                                                   Sequence 32, Application PC/TUS0022121
GENERAL INFORMATION:
APPLICANT: Proteinix Company
TITLE OF INVENTION: HEAT SHOCK FUSIO
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PRIOR APPLICATION NUMBER: 60/13
PRIOR FILING DATE: 1999-05-17
PRIOR APPLICATION NUMBER: 60/15
PRIOR APPLICATION NUMBER: 60/16
PRIOR PELICATION NUMBER: 60/16
PRIOR APPLICATION NUMBER: 60/16
PRIOR PELICATION NUMBER: 60/16
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LENGTH: 10
TYPE: PRT
ORGANISM: Artificial Sequence
FILE REFERENCE: IGN-2004WO
CURRENT APPLICATION NUMBER: PCT/US00/22121
CURRENT FILING DATE: 2000-08-14
PRIOR APPLICATION NUMBER: 09/026,276
PRIOR FILING DATE: 1998-02-19
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CURRENT FILING DATE: 2000-08-14
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                                                                                       SHOCK FUSION-BASED VACCINE SYSTEM
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Best Local Similarity
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OTHER INFORMATION: antigen
PCT-US00-22121-32
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                                                          Matches
                                                                                        Query Match
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                                                                                                                                                                                                                                 TELEFAX: (516)742-436
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS:
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                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS: LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: Immunogenic LHRH peptide constructs
TITLE OF INVENTION: and synthetic universal immune stimulators for vaccines
NUMBER OF SEQUENCES: 114
CORRESPONDENCE ADDRESS:
                                                                                                                                               TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Ladd, Anna
APPLICANT: Wang, Chang Yi
APPLICANT: Zamb, Timothy
                                                          Local Similarity hes 8; Conser
                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: PCT/
FILING DATE: 13-APR-1994
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 400 Garden City Plaza CITY: Garden City
                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                              TELEPHONE:
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                           2 HWSYXLRPG 10
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                                                                                                                                                                                                                                              : (516)742-4343
(516)742-4366
                                                          Conservative
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88.9%;
                                                                       87.9%;
88.9%;
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Pred. No.
                                                         Score 51; DB 1; Pred. No. 0.023; 0; Mismatches
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0.023;
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; OTHER INFORMATION:
PCT-US94-12763-4
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GENERAL INFORMATION:
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SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US 08/147
FILING DATE: 05-NOV-1993
ATTORNEY/AGENT INFORMATION:
NAME: Weber, Kenneth A.
REGISTRATION NUMBER: 31,677
REFERENCE/DOCKET NUMBER: 1421
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 543-9600
                          ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                     TITLE OF INVENTION:
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                                                                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                    CITY: Philadelphia
STATE: PA
                                                                                                                                  ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz and ADDRESSEE: Norris
STREET: One Liberty Place - 46th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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COMPUTER: IF
COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: Peptide
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                                 Floppy disk
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Encapsulating Drug Delivery
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GnRH Preprohormone and [Ser-8]-GnRH preprohormone and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "GnRH"
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INFORMATION FOR SEQ ID NO: 5:
NECRMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                           ATTORNEY/AGENT INFORMATION:
NAME: Drivas Esq., Dimitrios T.
REGISTRATION NUMBER: 32,218
REFERENCE/DOCKET NUMBER: 110286:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-819-8286
                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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FILING DATE: May 20, 1992
ATTORNEY/AGENT INFORMATION:
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PRIOR APPLICATION NUMBER: 885,202
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Grimes, Stephen
APPLICANT: Scibienski, Robert
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CURRENT APPLICATION DATA:
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                                                                                                                                                    APPLICATION NUMBER: FILING DATE: CLASSIFICATION:
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LOCATION: 1
COTHER INFORMATION: pyroglutamic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: David R. Bailey
REGISTRATION NUMBER: 35,057
                                                                                                                                                                                                                                                                                                                  COUNTRY: USA
ZIP: 10036-2787
                                                                                                                                                                                                                                                                                                                                                    CITY: New York
STATE: NY
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TOPOLOGY: Un
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1155 Avenue of the Americas
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                                  212-354-8113
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88.9%;
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Pred. No. 0.023;
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; MOLECULE TYPE:
; HYPOTHETICAL:
PCT-US96-16950-2
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PCT-US96-16950-2
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                                                                                                                     TELEFAX: 908-594-4720 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                      FILIAN CALASSIFICATION:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: YANG, MOLLIE M.
NAME: YANG, MOLLIE M.
32,718
                                                                                                                                  REGISTRATION NUMBER: 32,718
REFERENCE/DOCKET NUMBER: 19.
TELECOMUNICATION INFORMATION:
TELEPHONE: 908-594-6343
TELEFAX: 908-594-4720
                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: LOMBARDO, VICTORIA K. APPLICANT: MARBURG, STEPHEN
                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: MOLLIE M. YANG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                CITY: RAHWAY
STATE: NEW JERSEY
                                                          TYPE: amino acid
STRANDEDNESS: si
                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: UZIP: 07065
                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: MOLLIE M. 14MW
STREET: 126 E. LINCOLN AVE PO BOX 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: Peptide LOCATION: 1.10 OTHER INFORMATION:
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                                              TOPOLOGY:
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                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
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88.9%;
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Pred. No.
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Query Match
Best Local Similarity
Matches 8; Conserv

Conservative

0; Mismatches

Indels

0;

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87.9%;

Score 51; DB 1; Pred. No. 0.023;

Length 10;

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RESULT 11 PCT-US96-16950-3 B 5

HWSYXLRPG 10

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PCT-US96-16950-7
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PCT-US96-16950-3
                                                                                                                                       Sequence 7, Application:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER: 32,718
REFERENCE/DOCKET NUMBER: 19
TELECOMMUNICATION INFORMATION:
TELEPHONE: 908-594-6343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US96/16950
FILING DATE:
           CORRESPONDENCE ADDRESS:
ADDRESSEE: MOLLIE M. YANG
                                                                          APPLICANT: LOMBARDO, VICTORIA K.
APPLICANT: MARBURG, STEPHEN
APPLICANT: TOLMAN, RICHARD L.
TITLE OF INVENTION: CONJUGATES OF GONADOTROPIN RELEASING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: LOMBARDO, VICTORIA K.
APPLICANT: MARBURG, STEPHEN
APPLICANT: TOLMAN, RICHARD L.
TITLE OF INVENTION: CONJUGATES O
TITLE OF INVENTION: HORMONE
NUMBER OF SEQUENCES: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: YANG, MOLLIE M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: MOLLIE M. YANG
                                                                TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE:
                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
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ZIP: 07065
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                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY:
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126 E. LINCOLN AVE PO BOX 2000
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                                                                  HORMONE
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0.023;
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; MOLECULE TYPE: po
; HYPOTHETICAL: NO
PCT-US96-16950-7
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Best Local Similarity
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 908-594-6343
TELEFAX: 908-594-4720
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPETWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US96/16950
                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
REFERENCE/DOCKET NUMBER: 19
TELECOMMUNICATION INFORMATION:
TELEPHONE: 908-594-6343
                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: MARBURG, STEPHEN
APPLICANT: TOLMAN, RICHARD L.
TITLE OF INVENTION: CONJUGATES OF GONADOTROPIN RELEASING
TITLE OF INVENTION: HORMONE
NUMBER OF SEQUENCES: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: LOMBARDO, VICTORIA K. APPLICANT: MARBURG, STEPHEN APPLICANT: TOLMAN, RICHARD L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: YANG, MOLLIE M.
REGISTRATION NUMBER: 32,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                   ATTORNEY/AGENT INFORMATION:
NAME: YANG, MOLLIE M.
REGISTRATION NUMBER: 32,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                      STREET: 12.
CITY: RAHWAY
                                                                                                                                                                                                                                                              COUNTRY: US.
ZIP: 07065
                                                                                                      FILING DATE:
CLASSIFICATION:
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STRANDEDNESS: sin
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TOPOLOGY: lit;

MOLECULE TYPE:

HYPOTHETICAL: I

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RESULT 15~
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PCT-US96-16950-9
                                                                                               Query Match
Best Local Similarity
Matches 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: U/UD3
COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
CONTRACT APPLICATION PCT/US96/16950
                                                                                                                                                                                                                                                                                     TELEFAX: 908-594-4720
NFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: 19
TELECOMMUNICATION INFORMATION:
TELEPHONE: 908-594-6343
                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: YANG, MOLLIE M.
REGISTRATION NUMBER: 32,718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: ALLY
CITY: RAHWAY
CITY: NEW JERSEY
TISA
                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: LOMBARDO, VICTORIA K. APPLICANT: MARBURG, STEPHEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
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ADDRESSEE: MOLLIE M. YANG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                            STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: U
ZIP: 07065
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                                                                                                                                                                                                                                          TYPE: amino acid
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                                         HWSYXLRPG 10
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linear
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88.9%;
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                                                                                                                           87.98;
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                                                                                                              Score 51; pred. No.
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Pred. No. 0.023;
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                                                                                                            DB 1; Length 10; 0.023;
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Search completed: March Job time: 372 sec

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APPLICANT: Mickey, Gerard J.
APPLICANT: Mohn, Kenneth L.
                                                                                                                                                                                                                                                                        TELEFAX: 908-594-4720 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 32,718
REFERENCE/DOCKET NUMBER: 19
TELECOMMUNICATION INFORMATION:
TELEPHONE: 908-594-6343
                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Yang, Mollie M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
COMPUTER: IBM PC com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Mohn, Kenneth L.
TITLE OF INVENTION: PSEUDOMONAS EXOTOXIN AS IMMUNOGENIC
TITLE OF INVENTION: CARRIER IN SYNTHETIC CONJUGATE VACCINES
                                                                                                                                                              STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                         TELEPHONE: 900 - TELEPHONE: 908-594-4720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 126 E. Lir
CITY: Rahway
STATE: New Jersey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: UZIP: 07065
                                                                                                                                                                                                                    TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
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                                                                                                                                                                                                                                      LENGTH:
                                2 HWSYXLRPG 10
2 HWSYXLRPG 10
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126 E. Lincoln Ave. P.O. Box 2000
                                                                                                                                                                                                                                    10 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
                                                                  Conservative
                                                            87.5.,
100.0%; Fr.
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                                                                                   Score 51; Pred. No.
                                                                   Mismatches
                                                                                  DB 1;
0.023;
                                                                                              Length 10,
                                                                   Indels
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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd

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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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1: /SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT:*

2: /SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*

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  10:
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108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             268485 seqs, 34193795 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gapop 10.0 , Gapext 0.5
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              /SIDSI/gcgdata/geneseq/geneseqp/AA1999.DAT:*
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/SIDS1/gcgdata/geneseq/geneseqp/AA2000.DAT:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Four-copy gonadotr	Y58363	21	49	65.7	71	12
Peptide hormone Gn	W61542	19	49	65.7	71	11
GnRH-2. Synthetic	W79567	19	49	65.7	71	10
GnRH 4-repeat sequ	W03944	17	49	65.7	71	9
Peptide immunogen	Y68593	21	35	75.0	81	8
Modified MVF Th ep	Y91243	21	35	75.0	81	7
Modified MVF Th ep	Y91242	21	35	75.0	81	6
Peptide immunogen	Y68594	21	34	75.0	81	ر. دن
Modified HBV surfa	Y91244	21	34	75.0	81	4
GnRH immunomimic a	R78284	16	16	81.9	88.5	u
Gonadotropin relea	Y58139	21		100.0	108	2
GnRH immunomimic a	R78282	16	17	100.0	108	1
Description	ID	DB	Query Match Length DB	Query Match	Score	Result

ALIGNMENTS

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R78282 standard; peptide; 17
                                                                        GnRH immunomimic and spacer (GnRH(1-10)-Ser1).
                                                                              13-MAR-1996
                                                                                    R78282;
                                                                              (first entry)
                                                                                          B
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Immunomimetic; gonadotropin releasing hormone; GnRH; LHRH; vaccine; luterinsing hormone releasing hormone; spacer; immunomimic; uterine; diphtheria toxoid; DT; gynaecological; endometriosis; uterine fibroids; gonadal steroid hormone associated dependent disease; gonadotropin; immunological contraception; mammal; breast; cancer; prostate; benign prostatic hypertrophy.

Chimeric - Homo sapiens Chimeric - Synthetic.

) 7	F 26-			. 13	r Mod	r Pep	H	r Pep	н Кеу	(:::)
77 - TAN - 1004 .	26-JAN-1995;	03-AUG-1995.	WO9520600-A1.		Modified-site	Peptide		Peptide		9
0/115-0188703	95WO-US01225.		•	<pre>/note= "Amidated C-terminal</pre>	17	817	/note= "spacer"	17	Location/Qualifiers	ol in cricica c.

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RESULT
Y58139
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Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immunominic is attached to an immunological carrier such as diphtheria toxoid (DT) and also affects the immune response generated by the vaccinated mammal against the immunomimic. Compositions comprising these peptides may be used for treating a mammal for gonadorropin and gonadal steroid hormone associated dependent disease or for providing immunological contraception in mammals. They can also be used for treating breast cancer, uterine and other gynaecological cancers, endometriosis, uterine fibroids, prostate
                                                  ₩PI; 2000-062125/05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gonadotropin releasing hormone; GnRH; leukotoxin; LKT; fusion protein; antibody; immunogenic; chimeric; vaccine; testosterone; androgenic; non-androgenic; steroid; reduction; weight gain; muscle distribution; fat distribution; male pattern; boar taint; flavour; impairment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gonadotropin releasing hormone (GnRH). These peptides comprise the wild type GnRH sequence and a spacer attached to either the N- or C terminal. The spacer molecules serve as a link through which the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New anti-gonadotropin releasing hormone immunogenic composition(s) - used for treating gonadotropin and gonadal steroid hormone dependent disease(s) and providing contraception.
Production of uncastrated male food animals using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-MAR-2000
                                                                                                                                                                                                     05-MAY-1998;
                                                                                                                                                                                                                                                       05-MAY-1999;
                                                                                                                                                                                                                                                                                                            11-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                               reliable;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gonadotropin releasing hormone (GnRH), peptide analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Y58139 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cancer, or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The sequences given in R78282-85 represent immunomimetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page 29; 39pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1995-275410/36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (APHT-) APHTON CORP
                                                                                                                                                   (BIOS-) BIOSTAR INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CPPPPSSEHWSYGLRPG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 cppppssehwsyglrpg 17
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                                                                                                      'n,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               immunocastration;
                                                                                                    Acres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            benign prostatic hypertrophy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A,
                                                                                                                                                                                                     98US-0084217
                                                                                                                                                                                                                                                          99WO-CA00360
                                                                                                    SD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17
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                                                                                                    R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 108;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8; DB 16;
. 7.4e-08;
ches 0;
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New anti-gonadotropin releasing hormone immunogenic composition(s

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RESULT
R78284
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                              Immunomimetic; gonadotropin releasing hormone; GnRH; LHRH; vaccine; luteinising hormone releasing hormone; spacer; immunomimic; uterine; diphtheria toxoid; DT; gynaecological; endometriosis; uterine fibroids;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    substantially reduce androgenic and/or non-androgenic steroids. The invention is used to produce food animals that exhibit the weight gain and muscle/fat distribution of male animals without the problems associated with male animals. Such problems include "boar taint", a urine-like odour found in cooked meat of uncastrated pigs which is caused by steroids stored in the tissues, and similar flavour impairments in the meat of other intact male animals. The invention is more reliable than prior art immunocastration techniques.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        uncastrated male animals for meat production, one vaccination prior to or during the fattening period to reduce circulating testosterone levels, and the second vaccination about 2-8 weeks before slaughter to
                                                         Grimes S,
                                                                                                                                                                                                                                                                                                                                                           Chimeric -
Chimeric -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GnRH immunomimic and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (GnRH) analogues which may be used as an alternative to sequence Y58135 in embodiments of the present invention. The invention relates to a method of using two GnRH immunogen vaccines to produce
                           WPI; 1995-275410/36
                                                                                                                                                                               03-AUG-1995.
                                                                                                                                                                                                                                                                                  Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                  gonadal steroid hormone associated dependent disease; gonadotropin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-MAR-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R78284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                     (APHT-) APHTON CORP
                                                                                                                  27-JAN-1994;
                                                                                                                                                26-JAN-1995;
                                                                                                                                                                                                           WO9520600-A1
                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                               Peptide
                                                                                                                                                                                                                                                                                                                                                                                                    benign prostatic hypertrophy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R78284 standard; peptide; 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequences Y58136-Y58141 represent gonadotropin releasing hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 11; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                      mmunological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CPPPPSSEHWSYGLRPG 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  l Similarity
17; Conserv
                                                       Scibienski R;
                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                           Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                    contraception; mammal;
                                                                                                                  94US-0188223
                                                                                                                                                95WO-US01225
                                                                                                                                                                                                                                                    /note= "GnRH"
16
                                                                                                                                                                                                                                      /note= "Amidated C-terminal"
                                                                                                                                                                                                                                                                                                /note= "spacer"
                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           spacer (GnRH(1-10)-Arg1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
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Pred. No. 7.4e-08;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                    breast; cancer; prostate;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      immunomimic is attached to an immunological carrier such as diphtheria toxoid (DT) and also affects the immune response generated by the vaccinated mammal against the immunomimic. Compositions comprising these peptides may be used for treating a mammal for gonadotropin and gonadal steroid hormone associated dependent disease or for providing immunological contraception in mammals. They can also be used for treating breast cancer, uterine and other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The sequences given in R78282-85 represent immunomimetics to gonadotropin releasing hormone (GnRH). These peptides comprise the wild type GnRH sequence and a spacer attached to either the N- or C-terminal. The spacer molecules serve as a link through which the

    used for treating gonadotropin and gonadal steroid hormone
dependent disease(s) and providing contraception.

                                                                                                                                                                                                                                                                                                                                                                                                                                      Plasmodium falciparum; circumsporozoite; antimalarial; CETP; cholesteryl ester transport protein; anti-arteriosclerotic.
The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention
                                                                                                                                                                                                                                                                                                   21-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                        W09966957-A2
                                                                                                                                                                                                                                                                                                                                                                                                       Chimeric - Hepatitis B virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                somatostatin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Y91244 standard; peptide; 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cancer, or benign prostatic hypertrophy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gynaecological cancers, endometriosis, uterine fibroids,
                                                    Disclosure; Page 109; 129pp; English
                                                                                     New artificial {\bf T} helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis or human immune deficiency virus -
                                                                                                                                                          WPI; 2000-160564/14.
                                                                                                                                                                                                                            (UNBI-) UNITED
                                                                                                                                                                                                                                                                  20-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y91244;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         coot and mouth disease virus; immunoglobulin E; IgE; anti-allergic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         luteinising hormone releasing hormone; LHRH; contraceptive; anticance
omatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 cpppp-rehwsyglrpg 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CPPPPSSEHWSYGLRPG 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                surface Ag/LHRH antigenic peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
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                                                                                                                                                                                                                               BIOMEDICAL INC
                                                                                                                                                                                                                                                                98US-0100412
                                                                                                                                                                                                                                                                                                   99WO-US13975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81.9%;
88.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 88.5;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .1e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO:122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               anticancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
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Ctreating allergies or arteriosclerosis. Incorporation of a promiscuous of treating allergies or arteriosclerosis. Incorporation of a promiscuous of improves capacity to induce a strong T helper cell-mediated immune carpiace carrier proteins and pathogen-derived T helper epitopes. Compose, resulting in production of antibodies against a target antigen. Composer vy1121 represents a promiscuous T helper epitopes represents a promiscuous T helper epitope from the cepitope. Sequence y91121 represents a promiscuous T helper epitope from the pathoges. Sequence y91143 represents a promiscuous T helper politope from the cepitope. Sequence y91143 represents a promiscuous T helper politope from the pathoge. Sequence y91144 are antigen. And sequences y91144-y91155 are compatitis B virus (HBV) surface antigen and sequences y91144-y91155 are compatitis B virus (HBV) surface antigen and sequences y91144-y91155 are compatitis B virus (HBV) surface antigen peptides comprising an LHRH candidate to a promiscuous The pitope. Y91197 is the LHRH target compatities and y91201-y91207 are antigenic peptides comprising compatities and y91201-y91207 are antigenic peptides comprising compatities and y91201-y91207 are antigenic peptides comprising compatities which may be used to prevent HIV infection of T cells. Y90212 is a modified version of a human IgE (immunoglobulin C cells. Y90212 is a modified version of a human IgE (immunoglobulin C peptides which may be used to prevent his peptide and a Th epitope. Y9123 target antigen. And Y9123-y9021 are this peptide and a Th epitope winch may be used in the treatment of allergies. Y91205 is a peptide derived from foot and mouth disease virus (FMDV) VPI capsid C peptides which may be used in the treatment of allergies. Y91208 and WPI Th epitope and may be used in a malaria vaccine. Y9128-y9123 target antigen and Th epitope winch may be used to prevent or treat arteriosclerosis and C c antigenic peptides. Y9123 and Y91251 and Y91257 are HIV-1 neutralising C antigenic peptides, and Y9128-y91251 
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                                                                                                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     immunotherapy; for inhibition of the action of luteinising hormone releasing hormone (LHRH) for contraception, treatment of hormone-dependent cancer, prevention of boar taint in meat, and immunocastration); for promoting the growth of animals; or for
                        Helper T cell epitope; surface antigen; peptide immunogen; LHRH; luteinising hormone-releasing hormone; spermatogenesis; ovulatio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                              Peptide immunogen comprising a Th epitope and LHRH target antigen
                                                                                                                                            05-MAY-2000
                                                                                                                                                                                          Y68594;
                                                                                                                                                                                                                                   Y68594 standard; peptide; 34
                                                                                                                                                                                                                                                                                                                                                       19
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  sexual development;
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                                                                                                                                            (first entry)
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81.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             invention.
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    sex hormone;
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Pred. No. 0.00038;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 34;
s; ovulation;
T helper epitope;
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RESULT
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                                  Y91242 standard;
Y91242;
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Hepatitis B virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              vaccine; contraceptive; hormone-dependent tumour; prostate cancer;
breast cancer; endometriosis; boar taint; meat quality; immunocastration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hepatitis B virus surface antigen. The peptide immunogens cause induction of a specific immune response to LHRH which is involved in regulation of spermatogenesis, ovulation, oestrus, sexual development and secretion of sex hormones. Provision of a promiscuous T helper epitope (which is functional in genetically diverse subjects) provides optimum immunogenicity to the B cell epitopes of the target antigen and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        synthetic helper T cell (Th) epitope and a target antigen, luteinising hormone (LHRH). The synthetic Th epitope is derived from a structured synthetic antigen library (SSAL) designated SSAL2 Th SSAL2 Th is modelled after a promiscuous epitope taken from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unidentified
                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence represents a peptide immunogen comprising synthetic helper T cell (Th) epitope and a target antigen, lut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New peptide immunogen containing luteinising hormone-releasing antigen site and helper T cell epitope, for e.g. contraception
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                                                                                                                                                                                                                                                                                                                                                                                                   boar taint
                                                                                                                                                                                                                                                                                                                                                                                                                        immunogens of the invention are used to vaccinate against mammalian LHRH for use as (reversible) contraceptive; control of hormone-dependent tumours (cancer of prostate or breast, also endometriosis); to prevent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      thus high antibody titres against the target antigen. The peptide
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13; Conser
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nt of
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                                                                                                                                                                                                                                                                                                                                                                                                 (and improve meat quality) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Page 85; 102pp; English
                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cancer
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23
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21
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25..34
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                                           peptide;
                                                                                                                                                                                                                                                                75.0%;
81.2%;
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                                             A.
                                                                                                                                                                                                                                                                Score 81; DB 21;
Pred. No. 0.00038;
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                                                                                                                                                                                                                                                                                                                                                                                                   for immunocastration
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                                                                                                                                                                                                                                                                                     Length 34;
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somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMD foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CETP;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cholesteryl ester transport protein; anti-arteriosclerotic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hepatitis B
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                                                                                                                                                                                                                                                                                                                                                                                                           (UNBI-) UNITED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Measles virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             T-cell epitope; measles virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                            BIOMEDICAL INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              epitope/LHRH antigenic peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     immunogenic;
                                                                                                                                                                                                                                                                                                                                                   derived immunogens with target e.g. malaria, arteriosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO:120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MVF;
B-cell
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New artificial T helper cell epitope and antigenic site, for immunization against or human immune deficiency virus Disclosure; Page 108; 129pp; English.

e.g. malaria,

CC response, resulting in production of antibodies against a target antigen. CC The can replace carrier proteins and pathogen derived T helper epitopes. CC Sequence Y91121 represents a promiscuous T helper epitope from the CC measles virus F (MVF) protein and sequences Y91122 Y91142, Y91226 and CC Y91245-Y91246 represent synthetic Th epitopes based on the MVF Th CC epitope. Sequence Y91143 represents a promiscuous Th epitope from CC hepatitis B virus (HBV) surface antigen, and sequences Y91144-Y91155 are CC synthetic epitopes derived from this HBV epitope. Y91166-Y91196, CC Y91227 and Y91242-Y91244 are antigenic peptides comprising an LHRH CC sequence joined to a promiscuous Th epitope. Y91197 is the LHRH target CC suntigenic peptide used in these LHRH antigenic peptides (Y91200) is CC somatostatin, and Y91201-Y91207 are antigenic peptides comprising CC somatostatin and a Th epitope. Y91208 is a human CD4 CDR2-like domain CC antigenic peptides which may be used to prevent HIV infection of TC cells. Y90212 is a modified version of a human IgE (immunoglobulin CC peptides which may be used in the treatment of allergies. Y91220 is constored and Y91207 or an antigenic peptides. Y91200 is a peptide derived from foot and mouth disease virus (FMDV) VP1 capsid CC apeptide derived from foot and mouth disease virus (FMDV) VP1 capsid CC apptides which may be used in the treatment of allergies. immunotherapy; for inhibition of the action of luteinising hormone releasing hormone (LHRH) for contraception, treatment of hormone-dependent cancer, prevention of boar taint in meat, and immunocastration); for promoting the growth of animals; or for treating allergies or arteriosclerosis. Incorporation of a promiscuous the first animals and a promiscuous treating allergies or arteriosclerosis. The invention relates to novel promiscuous T helper cell epitopes (Th) and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, protein and Y91221-Y91222 comprise this peptide and a Th epitope. is a Plasmodium falcibarum ofroumcorporate 'Co Th (functional protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of specifically against Plasmodium falciparum, cholesteryl ester transport Th (functional in genetically diverse subjects) into an immunogen improves capacity to induce a strong T helper cell-mediated immune infections (HIV, foot-and-mouth disease or malaria); for cancer **91**223

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Query Match
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and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against plasmodium falciparum, cholesteryl ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth dispage or mail-1-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Y91224-Y91225 comprise the CS antigen and an MVF Th epitope and may be used in a malaria vaccine. Y91228-Y91231 represent CETP-derived peptides and Y91232-Y91241 are immunogens comprising a CETP peptide and a Th epitope which may be used to prevent or treat arteriosclerosis and cardiovascular disease. Y91247 and Y91252-Y91257 are HIV-1 neutralising B-cell epitopes, and Y91248-Y91251 and Y91258-Y91273 are antigenic peptides comprising MVH Th and HIV-1 B-cell epitope which may be used as a component in an anti-HIV-1 vaccine. Y91198 and Y91199 are respectively an immunostimulatory invasin protein epitope from Yersinia species, and hinge spacer peptide, both of which may optionally be used in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chimeric -
                                                                                                                                                                                                                                                                                                              Disclosure; Page 108; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                   New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis or human immuno defirelency virus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic; B-cell luteinising hormone releasing hormone; LHRH; contraceptive;
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                                                                                                                                                                                                                                                                                                                                                                          deficiency virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                epitope/LHRH antigenic peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         75.0%;
81.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 81; DB 21;
Pred. No. 0.00039;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               anticancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        epitope;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
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Measles virus

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RESULT
Y68593
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CC treating allergies or arteriosclerosis. Incorporation of a promiscuous CF Th (functional in genetically diverse subjects) into an immunogen improves capacity to induce a strong T helper cell-mediated immunogen comproves capacity to induce a strong T helper cell-mediated immunogen component in the production of antibodies against a target antigen. CF response, resulting in production of antibodies against a target antigen. CF response, replace carrier protein and sequences against a target antigen. CF replace carrier protein and sequences y91122-Y91142, y91226 and CF y91245-Y91246 represents a promiscuous T helper epitope from the ceptiope. Sequence Y91143 represents a promiscuous Theytope from the MVF Th CF y91245-Y91244 are antigen; peptides comprising an LHRH target CF sequence yoined to a promiscuous Theytope. Y91196, Y91272 and Y91242-Y91244 are antigen; peptides. Y91201 is comatostatin, and Y9120-Y91207 are antigenic peptides. Y91200 is somatostatin, and Y9120-Y91207 are antigenic peptides. Y91200 is comatostatin, and Y91209-Y90211 are MVH Theytope/CP4 CDR2 cantigenic site, and Y91209-Y90211 are MVH Theytope/CP4 CDR2 calls. Y90212 is a modified version of a human CP4 cDR2-like domain components and y90213-Y90212 are Theytope/CP4 CDR2 is a peptides which may be used in the treatment of allergies. Y91220 is a peptide derived from foot and mouth disease virus (FMV) VP1 capsid component in an anti-HD-1 was component or treatment of allergies and may be used in a malaria vaccine. Y91223 comprising a CEPP peptide and a Theytope and may be used in a malaria vaccine. Y91283 may 19128 and Y91287 are HTV-1 neutralising CP allergies, and Y91247 and Y91251 and Y91251 and Y91257 are antigenic peptides of the invention.

CC achieves, and Y91247 and y91251 and Y91258-Y91273 are antigenic peptides of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                               Helper T cell epitope; F protein; Measles virus; luteinising hormone-releasing hormone; spermatog cestrus; sexual development; sex hormone; promiss vaccine; contraceptive; hormone-dependent tumour.
                                                       Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          immunotherapy; for inhibition of the action of luteinising hormone releasing hormone (LHRH) for contraception, treatment of hormone-dependent cancer, prevention of boar taint in meat, and
                                                                                                breast
                                                                                                                                                                                                                                                        05-MAY-2000
                                                                                                                                                                                                                                                                                                                                      Y68593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            immunocastration);
                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 PPPPSSEHWSYGLRPG
                                                                                                                                                                                                                                                                                                                                                                             ω
                                                                                                                                                                                                                                                                                                                                                                                                                                   ppxpxpehwsyglrpg
                                                                                                cancer;
                                                                                                                                                                                                                                                                                                                                    standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 l Similarity
13; Conser
                                                                                                                                                                                                             immunogen comprising a Th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                      (first entry)
                                                                                                endometriosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          prevention of boar taint in meat, and for promoting the growth of animals;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    75.0%;
81.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17
                                                                                                                                                                                                                                                                                                                                      ω
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 81; DB 21;
Pred. No. 0.00039;
                                                                                                               hormone; spermatogenesis; ovulation; sex hormone; promiscuous T helper epitope; ne-dependent tumour; prostate cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                               epitope and LHRH target antigen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                        peptide immunogen; LHRH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
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DЬ
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                                                                                                                         Query Match
Best Local Similarity
Matches 13; Conserv
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Peptide
                                                                                                                                                                                                                                                                  The present sequence represents a peptide immunogen comprising a synthetic helper T cell (Th) epitope and a target antigen, luteinising hormone-releasing hormone (LHRH). The synthetic Th epitope is derived from a structured synthetic antigen library (SSAL) Thl. SSAL Thl is modelled after a promiscuous epitope taken from the F protein of the Measles virus. The peptide immunogens cause induction of a specific immune response to LHRH which is involved in regulation of
                                                                                                                                              functional in genetically diverse subjects) provides optimum immunogenicity to the B cell epitopes of the target antigen and thus high antibody titres against the target antigen. The peptide immunogens of the invention are used to vaccinate against mammalian LHRH, for use as (reversible) contraceptive; control of hormone-dependent tumours (cancer of prostate or breast, also endometriosis); to prevent boar taint (and improve meat quality) and for immunocastration.
                                                                                                                                                                                                                                                                                                                                                                                                         New peptide immunogen containing luteinising hormone-releasing hormone antigen site and helper T cell epitope, for e.g. contraception and treatment of cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wang
                                                                                                                                                                                                                                         spermatogenesis, ovulation, oestrus, sexual development and secretic of sex hormones. Provision of a promiscuous T helper epitope (which
                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                               Example 1; Page 85; 102pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2000-160562/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (UNBI-) UNITED BIOMEDICAL INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29-DEC-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference
    20
                PPPPSSEHWSYGLRPG
ppxpxpehwsyglrpg 35
                                                                                                                         35
                                                      Conservative
                                                                                                                         AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0100414.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99WO-US13960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "not specified"
24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "spacer Y68564"
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'label= Lys,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       label= Lys,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   label= His, Thr
                                                                   75.0%;
81.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "LHRH antigenic epitope Y68566"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "not specified'
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ser,
                                                      0;
                                                     Score 81; DB 21;
Pred. No. 0.00039;
0; Mismatches 3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           epitope Y68549"
                                                      ω
                                                                              Length 35;
                                                      Indels
                                                                                                                                                                                                                                          egulation and secretion
                                                     0;
                                                     Gaps
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Вþ Qy

22 pggssqhwsyglrpg 3 PPPSSEHWSYGLRPG

Conservative

17

65.7%; 80.0%;

Score 71; DB 17; Pred. No. 0.0099;

Length 49 Indels

Mismatches

2;

0;

Gaps

0,

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RESULT
W03944
ID W07
XX W07
AC W07
AC W07
D7
D7
D8
CW W1
KW 1
KW 1
KW 1
FFT
FFT
Query Match
Best Local Similarity
""tches 12; Conserva
                                                                    A synthetic DNA sequence (T37178) codes for a gonadotropin releasing hormone (GnRH) tetramer (W03944), in which the 4 GnRH repeat units are separated by spacers designed to increase immunogenicity. The DNA sequence was incoporated into vector pAA352 (ATCC 68283), which contains a truncated leukotoxin gene (LKT 352) derived from Pasteurella haemolytica, to give plasmid pCB113 (T37176). Escherichia coli transformants produce an LKT GnRH fusion protein (see also W03942 and W03943) useful as a vaccine for fertility control of domestic or farm animals.
                                                                                                                                                                                                                                 Gonadotropin-releasing hormone multimer fusion proteins - with leukotoxin polypeptide for increased immunogenicity, useful in antifertility vaccine prodn.
                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            W03944 standard;
                                                                                                                                                                                                                                                                                  N-PSDB;
                                                                                                                                                                                                                                                                                                                   Manns JG,
                                                                                                                                                                                                                                                                                                                                          (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                                                 10-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                                       24-JAN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                               15-AUG-1996.
                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9624675-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         contraceptive; sterilisation; pCB113; pCB111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Leukotoxin; LKT; gonadotropin-releasing hormone; GnRH;
fusion protein; immunogen; vaccine; fertility control;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GnRH 4-repeat sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      W03944;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide
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                                                                                                                                                                                                             2:
                                                                                                                                                                                                             Fig 1B; 87pp;
                                                                                                                                                                                                                                                                                                                    Potter AA;
                                                                    49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                    ΑA;
                                                                                                                                                                                                                                                                                                                                                                 95US-0387156
                                                                                                                                                                                                                                                                                                                                                                                         96WO-CA00049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label=
37..39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /label= Spacer
27..36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label= Spacer
40..49
                                                                                                                                                                                                                                                                                                                                                                                                                                                            /label= GnRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GnRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GnRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Spacer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GnRH
                                                                                                                                                                                                             English.
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RESULT W79567

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RESULT
W61542
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Best Local Similarity
Thes 12; Conserv
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                                                                                                                                                                                                                                                                              vertebrates. This sequence, as compared to the native peptide, has been found to have an N-terminal Gln rather than a pyroGlu residue, and also contains substitutions at amino acid residues 15 and 41, whereby His is replaced by Asp. This produces an alternating multimeric GnRH sequence which is highly immunogenic that can be used in the construction of a chimeric protein that comprises a leukotoxin polypeptide, several multimers, and the GnRH sequence. The chimeric protein can be used as a
                                                                                                                                                                                                                                                                                                                                                                            The present sequence represents a recombinantly produced or chemically synthesised Gonadotropin releasing hormone-2 (GnHR-2) polypeptide, which contains four copies of the GnHR decapeptide (V61528) and triplet amino acid spacers between each of these sequences. This decapeptide is secreted naturally by the hypothalamus which controls release of both the luteinsing hormone (LH) and the follicle stimulating hormone (FSH) in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chimeric protein of leukotoxin and gonadotropin releasing hormone useful for, e.g. preparation of vaccines for reduction of incidence of mammary tumours in mammals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Figure 1B; 118pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gonadotropin releasing hormone; GnHR; decapeptide; LH; luteinising hormone; FSH; follicle stimulating
                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Manns JG, Potter AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-AUG-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pyroGlu; chimera; leukotoxin polypeptide; multimer; vaccine; tumour;
immunogenic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GnRH-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-DEC-1998
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                           W61542 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                       individual.
                                                                                                                                                                                                                                                                  vaccine to help
                                                                                                 22
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                                                                                              pggssqhwsyglrpg
                                                                                                            PPPSSEHWSYGLRPG
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                                                                                                                                                                                                                            49
                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                    reduce
                                                                                                                                                                    65.7%;
80.0%;
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                           49
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                                                                                                                                                                                                                                                                    incidence of mammary tumours
                                                                                                                                                                 Score 71; DB 19;
Pred. No. 0.0099;
                                                                                                                                                      Mismatches
                                                                                                                                                      2;
                                                                                                                                                                                Length 49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hypothalamus; spacer;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           incidence
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                                                                                                                                                      0;
                                                                                                                                                                                                                                                                  mammalian
                                                                                                                                                    Gaps
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RESULT
Y58363
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                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                   This represents the amino acid sequence of the gonadotrophin releasing hormone (GnRH-2) decapeptide fragment used in the chimeric leukotoxin-GnRH polypeptide gene fusions. This is used to exemplify the method of invention of immunisation against endogenous molecules by administering a vaccine which comprises an immunogen and a carrier to the ear of the mammal. The method is useful for eliciting an efficient and uniform immune response to block or suppress the activity of an endogenous hormone, hormone receptor, agonist or antagonist in a vaccinated subject, or to elicit an immune response against a targeted endogenous cell type (e.g. a cancerous or otherwise diseased cell). It is especially useful
                                                                                                                                                                                                                                                                                                                                        to reduce the levels of GnRH in domestic animals, especially in porcine or bovine species. The use of GnRH immunogens in the vaccine reduces the levels of luteinizing hormone and follicle stimulating dymone and helps in immunocastrating the animal. Administration of vaccine compositions to the ear instead of intramuscular administration into the neck increases the efficiency of vaccination of mammals against endogenous immunogens, and may increase uniformity of vaccine presentation since the ear is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Immunisation against endogenous molecules by administering vaccine to ear - useful to elicit efficient and uniform immune response to ear. gonadotrophin releasing hormone to immunocastrate pignations.
                                Y58363;
                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Acres SD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO9834639-A1
                                                              Y58363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-FEB-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GnRH; gonadotrophin releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 1; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BIOS-) BIOSTAR INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GnHH; gonadotrophin releasing hormone peptide hormone; leukotoxin; immunisation; endogenous molecule; vaccine; ear; immunogen; carrier; immune response; hormone receptor; cancerous cell; domestic animal; porcine; bovine; luteinizing hormone; follicle stimulating hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Peptide hormone GnRH-2 decapeptide (4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-OCT-1998
                                                                                                                                                                                                                                                                                                                            relatively uniform from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mmunocastrate.
                                                                                                                                              22
                                                                                                                                                                              w
                                                                                                                                                                              PPPSSEHWSYGLRPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1998-446952/38
DB; V45190.
                                                                                                                                          pggssqhwsyglrpg
                                                              standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Harland R,
                                                                                                                                                                                                                                                                                            49
                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97US-0036883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98WO-CA00059
                                                              Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61pp; English.
                                                                                                                                                                                                                          65.7%;
80.0%;
                                                                                                                                              36
                                                                                                                                                                            17
                                                                                                                                                                                                                                                                                                                            animal to
                                                              49
                                                                                                                                                                                                                          Score 71; I
Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JG;
                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                           ccine presentation since animal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 copies) fragment
                                                                                                                                                                                                                          DB 19;
0.0099;
                                                                                                                                                                                                                                         Length 49;
                                                                                                                                                                                                             Indels
                                                                                                                                                                                                           0;
                                                                                                                                                                                                           Gaps
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27-MAR-2000

(first entry)

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RESULT
Y58135
                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 12; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This sequence represents a four-copy gonadotropin-releasing hormone (GnRH) multimer, where the second and fourth GnRH sequence have a His to Asp substitution at position 2 of the GnRh sequence. The invention relates to GnRH immunogens, analogues or antibodies that cross-react with endogenous GnRH of a vertebrate. A specifically claimed immunogenic fusion protein (Y58361) comprises, in the N to C-terminal direction, a synthetic peptide sequence (Y58364), an eight copy GnRH multimer (composed of two copies of the 4xGnRH multimer sequence of Y58363), the LKT protein (which functions as a carrier protein), and a second eight copy GnRH multimer. The fusion protein be used in a vaccine composition for prepubertal administration to a vertebrate subject to result in prolonged suppression of reproductive behaviour and/or fortility GnPH immunozone analogues.
                                  Y58135;
                                                                                                                                                                                                                                                                                                                                               The vaccines are used to suppress reproductive behaviour and/or fertility for at least 10 months. The prepubertal administration results in a prolonged, long-term suppression of testicular development and/or function in males, or a prolonged, long-term suppression of ovarian development and/or function in females. The methods provide a viable and desirable alternative to surgical forms of sterilisation that
   07-MAR<sup>1</sup>2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GnRH multimer; gonadotropin-releasing hormone; immunosterilisation;
immunocontraception; vaccine; feline; canine; equine; cervine; ds
                                                                  Y58135
                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                 behaviour and/or fertility. GnRH immunogens, analogues or antibodies are used to manufacture a composition or vaccine for immunosterilisation or immunocontraception of feline, canine, equine or cervine subjects.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hormone immunogens, analogues or antibodies used to manufacture vaccines for suppression of reproductive behavior and fertility
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2000-086857/07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Robbins SC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04-JUN-1998;
06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09-DEC-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Four-copy gonadotropin-releasing hormone (GnRH) multimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (BIOS-) BIOSTAR INC.
                                                                                                   13
                                                                                                                                                     22
                                                                                                                                                                                  3 PPPSSEHWSYGLRPG 17
                                                                                                                                                                                                                                                                                                                                   currently used
                                                                                                                                                 pggssqhwsyglrpg
                                                                  standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fig 5B; 88pp; English
                                                                                                                                                                                                                                                                                                     49
                                                                                                                                                                                                                    Conservative
 (first entry)
                                                                                                                                                                                                                                                                                                     AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98US-0088024
99US-0306689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99WO-CA00493
                                                                  Protein; 49
                                                                                                                                                   36
                                                                                                                                                                                                                                  65.7%;
80.0%;
                                                                                                                                                                                                                                  Score 71; DB 21; Pred. No. 0.0099;
                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                     DB 21;
                                                                                                                                                                                                                                                 Length 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The fusion protein may
                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                  Gaps
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that
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                                                                                                                                                 RESULT
W03943
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                                                                                                                                                                                                                                                                                   Matches
Leukotoxin; LKT; gonadotropin-releasing hormone;
                                  LKT-GnRH protein fusion from
                                                                  20-NOV-1996
                                                                                                   W03943;
                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2000-062125/05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Manns JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  05-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11-NOV-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   W09956771-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (BIOS-) BIOSTAR INC
                                                                                                                                                                                                                 22 pggssqhwsyglrpg
                                                                                                                                                                  14
                                                                                                                                                                                                                                                   3 PPPSSEHWSYGLRPG
                                                                                                                                                                                                                                                                                  l Similarity
12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Acres SD,
                                                                                                                                                                                                                                                                                                                                                                  49
                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                    AA,
                                                                                                                                                                                                                    36
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DIXX

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This sequence represents four copies of a gonadotropin releasing hormone (GnRH) analogue, DNA encoding which was used in the construction of a chimeric GnRH-leukotoxin (LKT) fusion gene (Z46400). This fusion gene encodes a GnRH-LKT fusion protein which may be used as a vaccine. The LKT portion of the protein acts to enhance the immunogenicity of the GnRH portion. The invention relates to a method of using two GnRH immunogen vaccines to produce uncastrated male animals for meat production, one vaccination prior to or during the fattening period to reduce circulating testosterone levels, and the second vaccination about 2-8 weeks before slaughter to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  substantially reduce androgenic and/or non-androgenic steroids. The invention is used to produce food animals that exhibit the weight gain and muscle/fat distribution of male animals without the problems associated with male animals. Such problems include "boar taint", a urine-like odour found in cooked meat of uncastrated pigs which is caused by steroids stored in the tissues, and similar flavour impairments in the meat of other intact male animals. The invention is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               non-androgenic; steroid; reduction; weight gain; muscle distribution; fat distribution; male pattern; boar taint; flavour; impairment; reliable; immunocastration; meat production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gonadotropin releasing hormone; GnRH; leukotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GnRH analogue multimer, containing four copies of the GnRH analogue
                                                                                                                                                                                                                       W03943 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 1; Fig 2B; 87pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Production of uncastrated male food animals using vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       reliable than prior art immunocastration
                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-0084217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99WO-CA00360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                65.7%;
80.0%;
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                                                                                                                                                                                                                          544 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 71; DB 21;
Pred. No. 0.0099;
pCB111.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   techniques.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LKT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             fusion protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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1/2

fusion protein; immunogen; vaccine; contraceptive; sterilisation.

fertility control;

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RESULT 15
W79570
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                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chimeric
Chimeric
                                                                                                                                                                                                                                                                                                                                                    sequence (see also W03944). It is the product of a chimeric gene (T37177) produced by deleting an approx. 1300 bp sequence from pCB113 (see also T37176) coding for amino acids 352-784 of LKT 352. Recombinant plasmid pCB111 (LKT 111:4 copy GnRH, ATCC 69748) was obtd. Escherichia coli transformants produced the chimeric protein, which is useful as a vaccine for fertility control, esp. immunological sterilisation of domestic or farm
                                                                                                                                                                                                                                                                                                                                                                                                                                 A chimeric protein (W03943) is composed of a fusion between a truncated leukotoxin (LKT-111) from Pasteurella haemolytica and a 4-copy gonadollberin-releasing hormone (GRH) repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gonadotropin-releasing hormone multimer fusion proteins - with leukotoxin polypeptide for increased immunogenicity, useful in antifertility vaccine prodn.
                                                                                                                                                  W79570 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 8; Fig 7A-7E; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Manns JG, Potter AA;
                                                        Chimera;
                                                                              LKT-GnRH chimeric
                                                                                                     24-DEC-1998
                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-JAN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             W09624675-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Domain
         Synthetic
                                 tumour.
                                             cytotoxic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-AUG-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Domain
                                                                                                                                                                                                             515
                                                                                                                                                                                                                                   3 PPPSSEHWSYGLRPG 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1996-384447/38.
DB; T37177.
                                                                                                                                                                                                          pggssqhwsyglrpg 529
                                                                                                                                                                                                                                                           12;
                                          pCB111; LKT 111; GnRH; Gonadotropin releasing hormone; multimer;
cativity; antigen presentation; immune response; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pasteurella
                                                                                                                                                                                                                                                                                                                    544 AA;
                                                                                                                                                                                                                                                           Conservative
                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95US-0387156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96WO-CA00049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= LKT
494..544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                  Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label= GnRH_repeat_domain
                                                                             protein.
                                                                                                                                                                                                                                                                      65.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    haemolytica Al
                                                                                                                                                                                                                                                                      Score 71; DB 17
Pred. No. 0.099;
                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    strain B122;
                                                                                                                                                                                                                                                                                 DB 17;
                                                                                                                                                                                                                                                                               Length 544;
                                                                                                                                                                                                                                                        Indels
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                                                                                                                                                                                                                                                         Gaps
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Search completed:
Job time: 911 sec
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Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present sequence represents the LKT-GnRH chimeric protein from pCB111. This plasmid contains the LKT 111 polypeptide fused to four copies of the GnRH peptide. This chimera lacks cytotoxic activity which enables there to be an increase in antigen presentation and thus an optimal immune response. The removal of this region also enables the truncated LKT to be expressed at much higher levels and allows the amount of antigen administered to be reduced. This chimeric protein comprises a leukotoxin polypeptide, several multimers, and a GnRH sequence. The chimeric protein can be used as a vaccine to help reduce the incidence of mammary tumours in a mammalian individual.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of mammary tumours in mammals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chimeric protein of leukotoxin and gonadotropin releasing useful for, e.g. preparation of vaccines for reduction of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1998-159540/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Manns JG,
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Pred. No. 0.099;
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Title:
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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/cgn2_6/ptodata/2/paa/US084_COMB.pep:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

5 4 3 2 1	Result
108 108 102 102 102 82.5	
100.0 100.0 94.4 94.4 76.4	
17 17 17 17 17 17 17 1 17 1 17 8 16 1	% Query Match Length DB ID
17 17 US-09-305-924-3 17 17 US-09-306-689-3 17 1 PCT-US95-01225-5 17 8 US-08-478-5468-5 16 1 PCT-US95-01225-7	ID
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ALIGNMENTS

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RESULT 1

US-09-305-924-3

: Sequence 3, Application US/09305924A

: GAMERAL IMPORTANTION:

APPLICANT: Jack G. Manns

APPLICANT: Stephen D. Actres

CURRENT FILING DATE: 1990-05-05

EARLIER FILING DATE: 1999-05-05

INUMBER OF SEQ ID NOS: 14

SOFTWARE: PATELING DATE: 1998-05-05

SEQ ID NO 3

SEQ ID NO 3

LENGTH: 17

TYPE: PAT

CORANIAM: GORH

US-09-305-924-3

Query Match
Best Local Similarity 100.0%; Score 108; DB 17; Length 17; Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EARLIER APPLICATION NUMBER: US 60/088,024
EARLIER FILING DATE: 1998-06-04
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT FILING DATE: 1999-05-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: METHODS FOR SUPPRESSING REPRODUCTIVE BEHAVIOR IN TITLE OF INVENTION: ANIMALS FILE REFERENCE: 9001-0047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Robbins, Sarah C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: Description of Artificial Sequence: Sequence OTHER INFORMATION: defines GnRH analogue
                                                     NFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: Immunogens Against TITLE OF INVENTION: Releasing Hormone NUMBER OF SEQUENCES: 11
                                                                                          TELEPHONE: 212-819-8286
                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: Drivas Esq., Dimitrios T.
REGISTRATION NUMBER: 32,218
REFERENCE/DOCKET NUMBER: 110286:
                                                                                                                                                                                                                                              SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/01225
                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
             LENGTH: 17 amino acids
                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                        CLASSIFICATION:
                                                                                                                                                                                                                              FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Dimitrios T. Drivas, Esq STREET: 1155 Avenue of the Americas
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amino acid
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                   17 amino acids
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                                                                                                                                      TELEFAX: 212-354-8113
INFORMATION FOR SEQ ID NO:
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HYPOTHETICAL:
FEATURE:
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NAME: Drivas Esq., Dimitrios T.
REGISTRATION NUMBER: 32,218
REFERENCE/DOCKET NUMBER: 110286
                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/188,223
FILING DATE: 27-JAN-1994
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                   TELEPHONE: 212-819-8286
                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Methods for the Treatment of Hormone-Dependent TITLE OF INVENTION: Tumors with Immunogens against Gonadotropin Re
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APPLICANT:
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                                                                                                                        SEQUENCE CHARACTERISTICS
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              NAME/KEY:
LOCATION:
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OTHER INFORMATION:
                                                                             TOPOLOGY:
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                                                                                                     17 amino acids
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SYSTEM: PC-DOS/MS-DOS
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/note- "spacer"
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                                                                                                                                                                                                                                                               TELEFAX: 212-354-8113
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IIBM PC compatible
OPERATING SYSTEM: PC-POS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/01225
                                                                                                                                                                            MOLECULE TYPE:
HYPOTHETICAL: Y
FEATURE:
                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
ATTORNEY/AGENT INFORMATION:
NAME: Drivas Esq., Dinitrios T.
REGISTRATION NUMBER: 32,218
                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION: TELEPHONE: 212-819-8286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION:
                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Grimes, Stephen APPLICANT: Scibienski, Rob
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                      TYPE: ami
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: USA
ZIP: 10036-2787
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les 16; Conserv
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                                                                        OTHER INFORMATION:
                                                                                       NAME/KEY: Region LOCATION: 7..16
                                                                                                                                 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
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LOCATION:
OTHER INFORMATION:
OTHER INFORMATION:
                              LOCATION:
                                           NAME/KEY: Modified-site
                                                                                                                                                           NAME/KEY: Region
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                                                                                                                                                                                                                                                   ENGTH:
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                                                                                                                                                                                                                                    amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application PC/TUS9501225
                                                                                                                                                                                                                                                   16 amino acids
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1155 Avenue of the Americas
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                                                                                                                                                                                                                       linear
                                                                                                                                                                                          : peptide
YES
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100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Releasing Hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Immunogens Against Gonadotropin
/label= GlyNH2
/note= "glycinamide"
                                                                                                                               /note= "spacer"
                                                                        /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note=
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                                                                                                                                                                                                                                                                                                                                         1102865-300
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Pred. No.
                                                                        "immunomimic"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "amidated glycine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "immunomimic"
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                                                                              US-08-478-546B-7
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Query Match
Best Local Similarity 87.
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/188,223
FILING DATE: 27-JAN-1994
CLASSIFICATION: 424
CLASSIFICATION: 424
ATTORNEY/ACENT INFORMATION:
NAME: Drivas Esq., Dimitrios T.
REGISTRATION NUMBER: 32,218
REFERENCE/DOCKET NUMBER: 1102865-
                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 212-354-8113 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION: TELEPHONE: 212-819-8286
TELEFAX: 212-354-8113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
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APPLICANT: Scibienski, Rob
                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                         LOCATION: 16
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                      LOCATION: 7..16 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: 07-JUN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC OPERATING SYSTEM:
                                                                                                                                                                                                                                 OTHER INFORMATION:
                                                                                                                                                                                                                                                  NAME/KEY: Region LOCATION: 1..6
                                                                                                                                                                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                                                                          TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
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                                                                                                                         Modified
16
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                                                                                                                                                                                         Region 7..16
                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E: Floppy disk
IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                          peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Methods for the Treatment of Hormone-Dependent
Tumors with Immunogens against Gonadotropin Re
               76.4%;
87.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         76.4%;
87.5%;
                                                                                         /note=
                                                                                                                                         site
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                                                                                                                                                                       /note=
                                                                                                                                                                                                                                 /note=
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 Score 82.5; DB 8
Pred. No. 0.0011;
0; Mismatches
                                                                                      Xaa
"amidated glycine"
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Pred. No. 0.0011;
                                                                                                                                                                                                                                 "spacer'
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                              DB 8;
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                              Length 16;
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                                                                                                                                                                                                       Sequence 122, Application PC/TUS9913975B GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: PCT/US99/13960
FILING DATE: 21-UNE-1999
PRIOR APPLICATION DATA: 09/100,414
APPLICATION NUMBER: 09/100,414
FILING DATE: 20-UNE-1998
ATTORNEY/AGENT INFORMATION:
NAME: MATIA.C.H. Lin
NAME: MATIA.C.H. Lin
REGISTRATION NUMBER: 215.323
REFERENCE/DOCKET NUMBER: 1151-4157PC
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 212-751-6849 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 1012-31E FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FLORES PC Windows
                                                                                                      APPLICANT: UNITED BIOMEDICAL INC., ET AL.
TITLE OF INVENTION: ARTIFICIAL T HELPER CELL
TITLE OF INVENTION: EPITOPES AS IMMUNE STIMULATORS FOR SYNTHETIC
TITLE OF INVENTION: PEPTIDE IMMUNOGENS
NUMBER OF SEQUENCES: 151
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SOFTWARE: WORD 97
CURRENT APPLICATION DATA:
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TITLE OF INVENTION: ARTIFICIAL THELPER CELL EPITOPES
TITLE OF INVENTION: AS IMMUNE STIMULATORS FOR SYNTHETIC PEPTIDE IMMUNOGENS INCLUDITIEL OF INVENTION: IMMUNOGENIC LHRH PEPTIDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 34 amino acids
                                                                                        CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
COUNTRY:
                                                                                                                                                                                                                                                                                                                         19 PPXPXPEHWSYGLRPG 34
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ZIP: 10154-0054
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                                                                        ADDRESSEE:
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                                     New York
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                                                       E: Morgan & Finnegan, L.L.P. 345 Park Avenue
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345 Park Avenue
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81.2%;
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TELEPAX: 212-751-6849
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 34 amino acids
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Matches
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                             TELEFAX: 212-751-6849
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                        REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
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MOLECULE TYPE:
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CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: 345 Par
CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity hes 13; Conserv
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                 LENGTH:
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                   34 amino acids
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US-09-100-414-56
; Sequence 56, Application US/09100414
; GENERAL INFORMATION:
                                                 SOFTWARE: WORD 97
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/O
FILING DATE: 20-UNE-199
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 09/100
FILING DATE: 20-JUNE-1998
ATTORNEY/AGENT INFORMATION:
NAME: MARIA H. Lin
REGISTRATION NUMBER: 29,33
                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: NOVEL LHRH PEPTIDE TITLE OF INVENTION: IMMUNOGENS NUMBER OF SEQUENCES: 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION DATA:
PRIOR APPLICATION NUMBER: 09/100,412
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MEDIUM TYPE: Floppy
COMPUTER: IBM PC com
ATTORNEY/AGENT INFORMATION:
NAME: Maria H. Lin
REGISTRATION NUMBER: 29,
                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: Morgan & Finnegan, L.L.P
STREET: 345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: PCT/US99/13975B
                                                                                                                                                                                                                                                                                                                                                                                                             Wang, Chang Yi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E: Floppy disk
IBM PC compatible
SYSTEM: PC Windows
                                                                                                                                                  IBM PC compatible
SYSTEM: PC Windows
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                                                                          20-JUNE-1998
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81.2%;
                                                                                            US/09/100,414
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29,323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 81; DB 1; Pred. No. 0.0033; 0; Mismatches
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0

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RESULT 11
US-09-303-323-82
Sequence 82, Application US/09303323
GENERAL INFORMATION:
APPLICANT: Wang, Chang Yi
TITLE OF INVENTION: NOVEL LHRH PEPTIDE
ITTLE OF INVENTION: IMMUNOGENS
NUMBER OF SEQUENCES: 106
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                     밁
                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                         ; MOLECULE TYPE: US-09-100-414A-82
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US-09-100-414A-82
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; MOLECULE TYPE: peptide US-09-100-414-56
                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 82, Application US/09100414A GENERAL INFORMATION:
APPLICANT: Wang, Chang Yi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: U.S.,
ZIP: 10154-0054
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
TYPEM: PC Windows
                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 212-751-6849
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC Windows
SOFTWARE: Word 97
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/100,414A
FILING DATE: 20-JUNE-1998
                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 34 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: 212-758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION: NAME: Maria H. Lin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: NOVEL LHRH PEPTIDE TITLE OF INVENTION: IMMUNOGENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                             Local Similarity hes 13; Conserv
                                                                                                                                                                                     19
                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 29,323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19
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                                                                                                                                                                                2 PPPPSSEHWSYGLRPG 17
|| | |||||||||
19 PPXPXPEHWSYGLRPG 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
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|| | |||||||||
19 PPXPXPEHWSYGLRPG 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New York
                                                                                                                                                                                                                                                                                                                                                                 amino acid
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                                                                                                                                                                                                                                              Conservative
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                                                                                                                                                                                                                                                                                                                                                      linear
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Morgan & Finnegan, L.L.P.
                                                                                                                                                                                                                                                                                                                                      peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    75.0%;
81.2%;
                                                                                                                                                                                                                                                             75.0%;
81.2%;
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                                                                                                                                                                                                                                                             Score 81;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
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Pred. No. 0.
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                                                                                                                                                                                                                                                         0.0033;
                                                                                                                                                                                                                                                                           DB 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 15; Length 34;
0.0033;
                                                                                                                                                                                                                                                                         Length 34
                                                                                                                                                                                                                                             Indels
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RESULT 12
US-09-701-588-122
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GENERAL INFORMATION:
APPLICANT: Wang, Chang Yi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
ZIP: 10154-0054
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Ploppy disk
MEDIUM TYPE: Ploppy disk
MEDIUM TYPE: PLOPPY disk
MEDIUM TYPE: PLOPPY disk
MEDIUM TYPE: PC Windows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Maria H. Lin
REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 1151
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
TELEFAX: 212-751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLL.
STATE: N.
COUNTRY: USA
COUNTRY: 10154-0054
TTD: 10154-DABLE F
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PRIOR APPLICATION NIMBER: 09/100,414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
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                                              CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/701,588

FILING DATE: 29-Nov-2000

CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:

APPLICATION NUMBER: 09/100,414

FILING DATE: 20-JUNE-1998

ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 PPPPSSEHWSYGLRPG 17
                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC Windows
                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: Morgan & Finnegan, L.L.P.
STREET: 345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: NOVEL LHRH
IMMUNOGENS
                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PPXPXPEHWSYGLRPG 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              amino acid
                                                                                                                                                                                                                                                                                      COUNTRY: USA
ZIP: 10154-0054
                                                                                                                                                                                                                                                                                                                         STATE: NY
                                                                                                                                                                                                                                                                                                                                          CITY: New York
              REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 1151-158US1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            34 amino acids
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                                   Maria H.
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81.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   PEPTIDE
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0.0033;
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Gaps

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TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 122:
US-09-701-588-122
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PCT-US99-13960-55
Sequence 55, Application PC/TUS9913960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: UNITED BI
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTY.
ZIP: 10154-0054
COMPUTER READABLE FORM:
COMPUTER: Floppy disk
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: IBM PC compatible
TYPEM: PC Windows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4809
TELEFAX: 212-751-6849
INFORMATION FOR SEQ ID NO: 122:
                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
TELEFAX: 212-751-6849
                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 09/100,414
FILING DATE: 20-JUNE-1998
ATTORNEY/AGENT INFORMATION:
NAME: Maria C.H. Lin
REGISTRATION NUMBER: 29,323
BEFERENCE COCKETT NUMBER: 1151-
                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: PCT/US99/13960 FILING DATE: 21-JUNE-1999 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
                             LOCATION: 7
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION DATA:
                                                                                                                                                                   MOLECULE TYPE: peptide
FEATURE:
                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                 OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19 PPXPXPEHWSYGLRPG 34
               OTHER INFORMATION:
                                                                NAME/KEY:
                                                                                                                                  NAME/KEY: Modified-site LOCATION: 4
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                                                                                                                                                                                                      TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New York
                                                                                                                                                                                                                  H: 35 amino acids amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        UNITED BIOMEDICAL INC.

VENTION: ARTIFICIAL T HELPER CELL EPITOPES

VENTION: AS IMMUNE STIMULATORS FOR SYNTHETIC PEPTIDE IMMUNOGENS INCLUDIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                Modified-site
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                                                                                                   /note=
Thr"
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                               /note= "Lys or
                                                                                                                                                                                                                                                                                                                                       1151-4157PC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 81; DB 27; Pred. No. 0.0033;
                                                                                                                 "Ser or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
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PCT-US99-13975B-120
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PCT-US99-13975B-120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                               TELEFAX: 212-751-6849
INFORMATION FOR SEQ ID NO:
               MOLECULE TYPE:
                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 35 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY:
LOCATION:
                               TOPOLOGY:
                                                                                                                                TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY:
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                               amino acid
GY: linear
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Best Local Similarity Matches 13; Conserv
                                                                                                                                                                                                                                                                                 OTHER INFORMATION: FEATURE:
                                                                                                              LOCATION: 16
OTHER INFORMATION:
OTHER INFORMATION:
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20 PPXPXPEHWSYGLRPG 35
                                                                                                                                                                         OTHER INFORMATION: OTHER INFORMATION:
           2 PPPPSSEHWSYGLRPG 17
                                            Conservative
                                                                                                                                                   Modified-site
                                                                                                                                                                                                             Modified-site
                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                Modified-site
                                                       75.0%;
81.2%;
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Thr"
                                                                                                                 /note= "Gly or Thr"
                                                                                                                                                                          /note=
Arg"
                                                                                                                                                                                                                                   /note= "His or Thr"
                                            0;
                                                      Score 81; DB 1; Pred. No. 0.0034;
                                                                                                                                                                                    "Lys or
                                                                                                                                                                                                                                                                                                         "Gly or
                                            Mismatches
                                                                    Length 35;
                                             Indels
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Gaps

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Sequence 120, Application PC/TUS9913975B GENERAL INFORMATION: APPLICANT: UNITED BIOMEDICAL INC., TITLE OF INVENTION: ARTIFICIAL THITLE OF INVENTION: EPTTOPES AS IMITITLE OF INVENTION: PEPTIDE IMMUNO PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/10
FILING DATE: 20-JUNE-1998 SOFTWARE: Word 97 CURRENT APPLICATION DATA: COMPUTER READABLE FORM: MEDIUM TYPE: Floppy TELECOMMUNICATION INFORMATION: TELEPHONE: 212-758-4800 FILING DATE: 20-JUNE-199
ATTORNEY/AGENT INFORMATION: CORRESPONDENCE ADDRESS: NUMBER OF SEQUENCES: APPLICATION NUMBER: FILING DATE: 21-JUN CLASSIFICATION: COMPUTER: IBM PC OPERATING SYSTEM: STREET: 345 Pa. CITY: New York REGISTRATION NUMBER: 29, REFERENCE/DOCKET NUMBER: RY: USA 10154-0054 Maria H. 345 Park Avenue E: Floppy disk
IBM PC compatible
SYSTEM: PC Windows Morgan & Finnegan, L.L.P. JMBER: PCT/US99/13975B 21-JUNE-1999 IOMEDICAL INC., ET AL.
ARTIFICIAL T HELPER CELL
EPITOPES AS IMMUNE STIMULATORS FOR SYNTHETIC PEPTIDE IMMUNOGENS 09/100,412 29,323 1151-4158PC1

peptide

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SEQUENCE CHARACTERISTICS:
LENGTH: 35 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
PCT-US99-13975B-121
Search completed: March 2, 2001, 10:59:03 Job time: 373 sec
                                                                                             В
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PCT-US99-13975B-121
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GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: UNITED BIOMEDICAL INC., ET AL.
TITLE OF INVENTION: ARTIFICIAL T HELPER CELL
TITLE OF INVENTION: EPITOPES AS IMMUNE STIMULATORS FOR SYNTHETIC
TITLE OF INVENTION: PEPTIDE IMMUNOGENS
                                                                                                                                                                      Query Match 75.0%;
Best Local Similarity 81.2%;
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US99/13975B
FILING DATE: 21-JUNE-1999
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/100,412
FILING DATE: 20-JUNE-1998
ATTORNEY/AGENT INFORMATION:
NAME: MAISH H. Lin
                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 212-751-6849
INFORMATION FOR SEQ ID NO: 121:
                                                                                                                                                                                                                                                                                                                                                                                                                              REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 1151-4158PC1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
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MEDIUM TYPE: Floppy disk
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Morgan & Finnegan, L.L.P.
STREET: 345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible OPERATING SYSTEM: PC Windows SOFTWARE: Word 97
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20 PPXPXPEHWSYGLRPG 35
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ZIP: 10154-0054
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                                                                                                                                                                    Score 81; DB 1; Length 35; Pred. No. 0.0034; 0; Mismatches 3; Indels
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Compugen Ltd

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Minimum DB :
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E. coli fimbriae H
GnRH 4-repeat sequ
GnRH-2. Synthetic
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GnRH analogue mult
Plasmid pBTA735-en
Plasmid pBTA740-en
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GnRH immunomimic a
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62 59.6 544 17 W03943 62 59.6 544 19 W79570 62 59.6 695 21 Y58361 62 59.6 697 19 W79569 63 72 18 709569 64 72 18 709569 65 72 18 71180 65 72 18 71180 66 72 18 71181 67 72 18 71181 68 72 72 72 72 72 72 72 72 72 72 72 72 72																																	
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ALIGNMENTS

Chimeric Chimeric Immunomimetic; gonadotropin releasing hormone; GnRH; LHRH; vaccine; luteinising hormone releasing hormone; spacer; immunomimic; uterine; diphtheria toxoid; DT; gynaecological; endometriosis; uterine fibroids; gonadal steroid hormone associated dependent disease; gonadotropin; immunological contraception; mammal; breast; cancer; prostate; GnRH immunomimic and spacer (GnRH(1-10)-Ser10). R78283; R78283 standard; peptide; 17 26-JAN-1995; 03-AUG-1995. WO9520600-A1 Peptide Peptide Modified-site benign 13-MAR-1996 prostatic hypertrophy ī 1 Synthetic. Homo sapiens (first entry) 95WO-US01225 /note= 11..17 /note= "pyroglutamic acid" /label= OTHER Location/Qualifiers "spacer" "GnRH" Ã

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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   comprising these peptides may be used for treating a mammal for gonadotropin and gonadal steroid hormone associated dependent disease or for providing immunological contraception in mammals. They can also be used for treating breast cancer, uterine and other gynaecological cancers, endometriosis, uterine fibroids, prostate
 Manns
                        (BIOS-) BIOSTAR INC.
                                                  05-MAY-1998;
                                                                            05-MAY-1999;
                                                                                                                                                                                                                                      non-androgenic; steroid; reduction; weight gain; muscle distribution; fat distribution; male pattern; boar taint; flavour; impairment reliable; immunorastration.
                                                                                                                                                                                                                                                                                                                 Gonadotropin releasing hormone (GnRH) peptide analogue
                                                                                                                                                                                                                                                                                                                                           07-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gonadotropin releasing hormone (GnRH). These peptides comprise the wild type GnRH sequence and a spacer attached to either the N- or C-terminal. The spacer molecules serve as a link through which the immunomimic is attached to an immunological carrier such as diphtheria toxoid (DT) and also affects the immune response generated by the vaccinated mammal against the immunomimic. Compositions
                                                                                                                                 W09956771-A2
                                                                                                                                                                      Modified-site
                                                                                                                                                                                                            Synthetic.
                                                                                                                                                                                                                                                                                       Gonadotropin releasing hormone; GnRH; leukotoxin; LKT; fusion protein;
                                                                                                                                                                                                                                                                                                                                                                                              Y58140 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1;
                                                                                                                                                                                                                                   reliable; immunocastration; meat production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The sequences given in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   dependent disease(s) and providing contraception
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l Similarity 100.0%
16; Conservative
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Acres SD,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        benign prostatic hypertrophy.
                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                  98US-0084217
                                                                            99WO-CA00360
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                                                                                                                                                        /note= "Pyroglutamic acid"
                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                             peptide; 17
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Harland
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Pred. No. 7.2e-07;
0; Mismatches 0;
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Best Local
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                                                                                                                                                                                                                                                                     Chimeric
Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequences Y58136-Y58141 represent gonadotropin releasing hormone (GNRH) analogues which may be used as an alternative to sequence Y58135 in embodiments of the present invention. The invention relates to a method of using two GNRH immunogen vaccines to produce uncastrated male animals for meat production, one vaccination prior to or during the fattening period to reduce circulating testosterone levels, and the second vaccination about 2-8 weeks before slaughter to
                                                                                                                                                                                                                                                                                                                                           luteinising hormone releasing hormone; spacer; immunomimic; uterine; diphtheria toxoid; DT; gynaecological; endometriosis; uterine fibroids; gonadal steroid hormone associated dependent disease; gonadotropin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and muscle/fat distribution of male animals without the problems associated with male animals. Such problems include "boar taint", a urine-like odour found in cooked meat of uncastrated pigs which is caused by steroids stored in the tissues, and similar flavour impairments in the meat of other intact male animals. The invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI;
                            27-JAN-1994;
                                                                                                              WO9520600-A1
                                                                                                                                                                                                                                                                                                                                                                                                               GnRH immunomimic and spacer (GnRH(1-10)-Arg10).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R78285;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R78285 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  substantially reduce androgenic and/or non-androgenic steroids. The invention is used to produce food animals that exhibit the weight \mathfrak g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 11; 87pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Production of uncastrated male food animals using vaccines
                                                      26-JAN-1995;
                                                                                                                                                        Peptide
                                                                                                                                                                                    Peptide
                                                                                                                                                                                                                             Modified-site
                                                                                                                                                                                                                                                                                                                                                                                    Immunomimetic; gonadotropin releasing hormone; GnRH; LHRH; vaccine;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               more reliable than prior art immunocastration
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                                                                                                                                                                                                                                                                                                              prostatic hypertrophy
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                                                                                                                                                                                                                                                                     Homo sapiens
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AA;
                                                      95WO-US01225
                                                                                                                                                                     /note= "GnRH"
                                                                                                                                                                                                /note=
                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptide;
                                                                                                                                                                                                                'label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99.0%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17
                                                                                                                                       "spacer'
                                                                                                                                                                                                "pyroglutamic
                                                                                                                                                                                                                OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 103; DB 21;
Pred. No. 7.2e-07;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A
                                                                                                                                                                                                   acid"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               techniques
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                         gonadotropin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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(APHT-) APHTON CORP

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gonadotropin releasing hormone (GnRH). These peptides comprise the wild type GnRH sequence and a spacer attached to either the N- or C-terminal. The spacer molecules serve as a link through which the immunomimic is attached to an immunological carrier such as diphtheria toxoid (DT) and also affects the immune response generated by the vaccinated mammal against the immunomimic. Compositions comprising these peptides may be used for treating a mammal for gonadotropin and gonadal steroid hormone associated dependent
                                    Manns JG,
                                                                                                                                         11-NOV-1999
                                                                                                                                                                                                                                             Synthetic
                                                                                                                                                                                                                                                                                                              antibody;
                                                                                                                                                                                                                                                                                                                         Gonadotropin releasing
                                                                                                                                                                                                                                                                                                                                                Gonadotropin releasing hormone (GnRH) peptide analogue
                                                                                                                                                                                                                                                                                                                                                                            07-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        They can also be used for treating breast cancer, uterine and other gynaecological cancers, endometriosis, uterine fibroids, prostate cancer, or benign prostatic hypertrophy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Page 29; 39pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New anti-gonadotropin releasing hormone immunogenic composition(s) used for treating gonadotropin and gonadal steroid hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Grimes S,
            WPI; 2000-062125/05
                                                                                      05-MAY-1998;
                                                                                                                05-MAY-1999;
                                                                                                                                                                  W09956771-A2
                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                      reliable;
                                                                                                                                                                                                                                                                                     fat distribution; male
                                                                                                                                                                                                                                                                                               non-androgenic;
                                                                                                                                                                                                                                                                                                                                                                                                      Y58141;
                                                                                                                                                                                                                                                                                                                                                                                                                             Y58141 standard; peptide; 16 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The sequences given in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dependent disease(s) and providing contraception.
                                                            (BIOS-) BIOSTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 HWSYGLRPGSSPPPPC 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hwsyglrpg-rppppc 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                           immunogenic;
                                                                                                                                                                                                                                                                       immunocastration;
                                    Acres SD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scibienski
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                      98US-0084217
                                                                                                                99WO-CA00360
                                                                                                                                                                                                                                                                               ogenic; chimeric; vaccine; testosterone; androgenic; steroid; reduction; weight gain; muscle distribution; make pattern; boar taint; flavour; impairment;
                                                              INC
                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                         /note= "Pyroglutamic acid"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80.3%;
87.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 70
                                    Harland R;
                                                                                                                                                                                                                                                                                                                         hormone; GnRH; leukotoxin; LKT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R78282-85 represent immunomimetics
                                                                                                                                                                                                                                                                      meat production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 83.5; DB 16;
Pred. No. 0.00017;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                      fusion protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1;
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R R42SULT R42S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and muscle/fat distribution of male animals without the problems associated with male animals. Such problems include "boar taint", a urine-like odour found in cooked meat of uncastrated pigs which is caused by steroids stored in the tissues, and similar flavour impairments in the meat of other intact male animals. The invention is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       or during the fattening period to reduce circulating testosterione levels, and the second vaccination about 2-8 weeks before slaughter to substantially reduce androgenic and/or non-androgenic steroids. The invention is used to produce food animals that exhibit the weight gain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gonadotropin releasing hormone; immunogenic carrier system, immune response; immunisation; vaccine; contraceptive agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E. coli fimbriae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-JUL-1994
                        Example 1;
                                                                               hormone
                                                                                                  Immunogenic carrier system comprising Escherichia coli P-fimbriae used to elicit immune response against gonadotropin releasing
                                                                                                                                                                                    N-PSDB;
                                                                                                                                                                                                          WPI; 1994-010165/02
                                                                                                                                                                                                                                                              Gielen
                                                                                                                                                                                                                                                                                                         (ALKU ) AKZO
                                                                                                                                                                                                                                                                                                                                                                18-JUN-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                       15-JUN-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12-JAN-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EP578293-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         treatment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R44953;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R44953 standard; Protein; 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 more reliable than prior art immunocastration techniques.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     uncastrated male animals for meat production, one vaccination prior to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          relates to a method of using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequences Y58136-Y58141 represent gonadotropin releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 11; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Production of uncastrated male food animals using vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 HWSYGLRPGSSPPPPC 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hwsyglrpg-rppppc 16
                                                                                                                                                                                                                                                              JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      analogues which may be used as an alternative to seque in embodiments of the present invention. The invention
                                                                                                                                                                                    Q54392.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                        Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16
                                                                                                                                                                                                                                                              Hoekstra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽,
                        2;
                                                                                                                                                                                                                                                                                                                                                                   92EP-0201775
                                                                                                                                                                                                                                                                                                                                                                                                                    93EP-0201712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "decapeptide GnRH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HR4 GnRH insert linker.
                        34pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hyperactivity; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80.3%;
                                                                                                                                                                                                                                                              WPM,
                                                                                                                                                                                                                                                              Van
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            be used as an alternative to sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 83.5;
Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        two GnRH immunogen vaccines to produce
                                                                                                                                                                                                                                                              Der
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                              Zee
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contraceptive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .00017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21;
                                                                                                                                                                                                                                                              Die
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 agent;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1;
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RESULT
W03944
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The sequence is that of an insert conty the decapeptide gonadotropi releasing hormone (GnRH) located in the major subunit of P-fimbriae with serotype F11 at a position corresponding to a position in hypervariable region 4 of the wild type major subunit. This forms part of an immunogenic carrier system capable of eliciting an immune
                 Example 2;
                                   antifertility
                                            Gonadotropin-releasing hormone multimer fusion proteins leukotoxin polypeptide for increased immunogenicity, usefi
                                                                                                                                                                                                                                                                                                                                                                        Leukotoxin; LKT; gonadotropin-releasing hormone; GnRH; fusion protein; immunogen; vaccine; fertility control; contraceptive; sterilisation; pCB113; pCB111.
                                                                                                                                                                                                                                                                                                                                                                                                            GnRH 4-repeat sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                W03944;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                W03944 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                      24-JAN-1996;
                                                                                                                                                                                          W09624675-A1
                                                                                                                   (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                     10-FEB-1995;
                                                                                                                                                                        15-AUG-1996.
                                                                                                                                                                                                                    Peptide
                                                                                                                                                                                                                                                                                                           Peptide
                                                                                                                                                                                                                                                                                                                                       кeу
                                                                                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                             20-NOV-1996 (first entry)
                                                                                                  Manns JG,
                                                                                                                                                                                                                                     Peptide
                                                                                                                                                                                                                                                      Peptide
                                                                                                                                                                                                                                                                        Peptide
                                                                                                                                                                                                                                                                                          Peptide
                                                                                                                                                                                                                                                                                                                             Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
les 10; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   σ
                                                                                1996-384447/38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HWSYGLRPGS 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hwsyglrpgs 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             against
                 Fig 1B;
                                                                                                 Potter AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA;
                                    vaccine
                                                                                                                                     95US-0387156
                                                                                                                                                      96WO-CA00049
                                                                                                                                                                                                                                      /labe:
                                                                                                                                                                                                                   /label= Spacer
40..49
                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                               /label= Spacer
                                                                                                                                                                                                                                                                                  /label- GnRH
                                                                                                                                                                                                                                                                                                   'label= Spacer
                                                                                                                                                                                                                                                                                                                    /label= GnRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein; 49
                87pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        59.6%;
                                   prodn.
                                                                                                                                                                                                                                              l= GnRH
                                                                                                                                                                                                            GnRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 15;
0.066;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                             useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gonadotropin
P-fimbriae
                                             with
ul in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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synthetic DNA sequence (T37178) codes for a gonadotropin

to help reduce

the

incidence

of mammary

in a mammalian

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XXXXXX
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W79567
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              88888888x&
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         releasing hormone (GnRH) tetramer (W03944), in which the 4 GnRH repeat units are separated by spacers designed to increase immunogenicity. The DNA sequence was incoporated into vector pAa352 (ATCC 68283), which contains a truncated leukotoxin gene (LKT 352) derived from Pasteurella haemolytica, to give plasmid pCB113 (T37176). Escherichia coli transformants produce an LKT-GnRH fusion protein (see also W03942 and W03943) useful as a vaccine for fertility control of domestic or farm animals.
             contains substitutions at amino acid residues 15 and 41, whereby His replaced by Asp. This produces an alternating multimeric GnRH seque which is highly immunogenic that can be used in the construction of chimeric protein that comprises a leukotoxin polypeptide, several multimers, and the GnRH sequence. The chimeric protein can be used
                                                                                                                                                                                                                                                                 Chimeric protein of leukotoxin and gonadotropin releasing useful for, e.g. preparation of vaccines for reduction of of mammary tumours in mammals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gonadotropin releasing ho
LH; luteinising hormone;
pyroGlu; chimera; leukoto
                                                                         vertebrates. This sequence, as compared to the native peptide, has been found to have an N-terminal Gln rather than a pyroGlu residue, and also contains substitutions at amino acid residues 15 and 41, whereby His is
                                                                                                                        acid spacers between each of these sequences. This decapeptide is secreted naturally by the hypothalamus which controls release of both the luteinising hormone (LH) and the follicle stimulating hormone (FSH) in
                                                                                                                                                                 The present sequence represents a recombinantly produced or chemically synthesised Gonadotropin releasing hormone-2 (GhHR-2) polypeptide, which contains four copies of the GHR decapetide (V61528) and triplet amino contains four packs of the GHR decapetide (V61528).
                                                                                                                                                                                                                                   Disclosure; Figure 1B; 118pp; English
                                                                                                                                                                                                                                                                                                                                                                              Manns JG,
                                                                                                                                                                                                                                                                                                                                                                                                         (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9806848-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GnRH-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           W79567;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       W79567 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                N-PSDB;
                                                                                                                                                                                                                                                                                                                                                WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                          09-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rmmunogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7
                                                                                                                                                                                                                                                                                                                                               1998-159540/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hwsyglrpgs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HWSYGLRPGS 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10;
                                                                                                                                                                                                                                                                                                                              V61529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                              Potter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               releasing hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ΑA;
                                                                                                                                                                                                                                                                                                                                                                                                                                          96US-0694865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97WO-CA00559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein; 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                leukotoxin polypeptide; multimer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                59.6%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FSH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 62;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  follicle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GnHR; decapeptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                stimulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hypothalamus; spacer; hormone; vertebrate;
                                                                                                                                                                                                                                                                                  incidence
                                                                                                                                                                                                                                                                                                 hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                            sequence
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individual

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RESULT
W61542
ID W6
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                                      This represents the amino acid sequence of the gonadotrophin releasing Concorne (GRRH-2) decapeptide fragment used in the chimeric leukotoxin-GC GnRH polypeptide gene fusions. This is used to exemplify the method of invention of immunisation against endogenous molecules by administering CC a vaccine which comprises an immunogen and a carrier to the ear of the commandal. The method is useful for eliciting an efficient and uniform immune response to block or suppress the activity of an endogenous can be come to block or suppress the activity of an endogenous cell type CC or to elicit an immune response against a targeted endogenous cell type CC (e.g. a cancerous or otherwise diseased cell). It is especially useful CC or reduce the levels of GRRH indomestic animals, especially in porcine CC levels of luteinizing hormone and follicle stimulating hormone and helps in immunocastrating the animal. Administration of vaccine compositions to the ear instead of intramuscular administration into the neck increases the efficiency of vaccination of mammals against endogenous immunogens,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                 to ear - useful
against e.g. go
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-FEB-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GnRH; gonadotrophin releasing
                                                                                                                                                                                                                                                                                                                             Example 1; Fig 1B; 6lpp; English.
                                                                                                                                                                                                                                                                                                                                                                             Immunisation against endogenous molecules by administering vaccine to ear - useful to elicit efficient and uniform immune response against e.g. gonadotrophin releasing hormone to immunocastrate pigg
                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; V45190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1998-446952/38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Acres SD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BIOS-) BIOSTAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO9834639-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    immune response; hormone reco
porcine; bovine; luteinizing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Peptide hormone GnRH-2 decapeptide (4 copies) fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        W61542 standard; Protein; 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                         and may increase uniformity of vaccine presentation since
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GnRH; gonadotrophin releasing hormone peptide hormone; leukotoxin; immunisation; endogenous molecule; vaccine; ear; immunogen; carrier; immune response; hormone receptor; cancerous cell; domestic animal; porcine; bovine; luteinizing hormone; follicle stimulating hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lmmunocastrate.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 HWSYGLRPGS 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Harland R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97us-0036883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98WO-CA00059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         59.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Manns JG;
            animal to animal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 62;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19;
                                                                                                                                                                                                                                                                                                                                                                           orm immune response to immunocastrate pigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                             the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,:
                             ear
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Best Local S
Matches 10
                                                                                                                                                        This sequence represents a four-copy gonadotropin-releasing hormone (GnRH) multimer, where the second and fourth GnRH sequence. have a His to Asp substitution at position 2 of the GnRh sequence. The invention relates to GnRH immunogens, analogues or antibodies that cross-react with endogenous GnRH of a vertebrate. A specifically claimed immunogenic fusion protein (Y58361) comprises, in the N to C-terminal direction, a synthetic peptide sequence (Y58364), an eight copy GnRH multimer (composed of two copies of the 4xGnRH multimer protein), and a second eight copy GnRH multimer. The fusion protein mabe used in a vaccine composition for prepubertal administration to a vertebrate subject to result in prolonged suppression of reproductive
                        and/or function in males, or a prolonged, long-term suppression of ovarian development and/or function in females. The methods provide a viable and desirable alternative to surgical forms of sterilisation ti
                                                                   behaviour and/or fertility. GnRH immunogens, analogues or antibodies are used to manufacture a composition or vaccine for immunosterilisation or immunocontraception of feline, canine, equine or cervine subjects. The vaccines are used to suppress reproductive behaviour and/or fertility for at least 10 months. The prepubertal administration results in a prolonged, long-term suppression of testicular development
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                      Claim
                                                                                                                                                                                                                                                                                                                                                                                                                 Hormone immunogens, analogues or antibodies used to manufacture vaccines for suppression of reproductive behavior and fertility
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-JUN-1998;
06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GnRH multimer; gonadotropin-releasing hormone; immunosterilisa immunocontraception; vaccine; feline; canine; equine; cervine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (BIOS-) BIOSTAR INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-MAY-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mammalia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Y58363;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y58363 standard; Protein; 49 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 hwsyglrpgs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 HWSYGLRPGS 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                    Fig 5B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gonadotropin-releasing hormone (GnRH) multimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98US-0088024
99US-0306689
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                                                                                                                                                                                                                                                                                                                                                                   88pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           59.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 62;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.
BB
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J. 21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immunosterilisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 49;
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SQ

Sequence

49

A

Query Match Best Local Matches

1 Similarity

Conservative

0; Score 6

Mismatches 62; l. No.

0;

0;

Gaps

0;

59.6%; 100.0%;

DB 21; 0.21;

Length 49 Indels

Y581

Y58135 standard; Protein; 49

ΑĀ

antibody; immunogenic; chimeric; vaccine; testosterone; androgenic; non-androgenic; steroid; reduction; weight gain; muscle distribution; fat distribution; male pattern; boar taint; flavour; impairment;

pin releasing hormone; GnRH; leukotoxin; LKT; fusion immunogenic; chimeric; vaccine; testosterone; androg

Gonadotropin

07-MAR-2000

(first entry)

GnRH analogue multimer, containing four copies

of the

GnRH

analogue

RESULT 10

дЬ Qy

Ν

2 HWSYGLRPGS 11

Matches 10; Conserv

Conservative

100.0%; *-

Pred. No. 0.21; mismatches

0;

Indels

0;

Gaps

0;

2

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Sequence
                                                                                                                                                   This sequence represents four copies of a gonadotropin releasing hormone (GnRH) analogue, DNA encoding which was used in the construction of a chimeric GnRH-leukotoxin (LKT) fusion gene (246400). This fusion gene encodes a GnRH-LKT fusion protein which may be used as a vaccine. The LKT portion of the protein acts to enhance the immunogenicity of the GnRH portion. The invention relates to a method of using two GnRH immunogen vaccines to produce uncastrated male animals for meat production, one vaccination prior to or during the fattening period to reduce circulating testosterone levels, and the second vaccination about 2-8 weeks before slaughter to
                                                                         and muscle/fat distribution of male animals without the problems associated with male animals. Such problems include "boar taint", urine-like odour found in cooked meat of uncastrated pigs which is
                                more reliable
                                                                                                                     substantially reduce androgenic and/or non-androgenic steroids. The invention is used to produce food animals that exhibit the weight gain
                                                                                                                                                                                                                                                                                                                          Example 1; Fig 2B; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                        Production of uncastrated male food animals using vaccines
                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; Z46402
                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2000-062125/05
                                                                                                                                                                                                                                                                                                                                                                                                                                       Manns JG, Acres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-MAY-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (BIOS-) BIOSTAR INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     reliable; immunocastration; meat production
                                              impairments
                                            by steroids stored in the tissues, and similar flavour ments in the meat of other intact male animals. The invention
 49
                                than
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98US-0084217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99WO-CA00360.
                                                                                                                                                                                                                                                                                                                                                                                                                                     SD,
                                prior art
                                                                                                                                                                                                                                                                                                                                                                                                                                       Harland
                                immunocastration
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B
                     Qγ
                                                                                               RESULT
R11178
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                                           Matches
                                                      Query Match
Best Local
                                                                                                                 Plasmid pBTA735 is a TraTp-LHRH analogue fusion in which the LHRH analogue has been inserted between amino acids 101 and 102 of TraTp (Ogata R.T. et al., (1982) J.Bacteriol. 151:819-827). The synthetic LHRH analogue was inserted via a linker which provides a unique new SmaI site located between codons such that the LHRH is inserted in frame. The fusion protein can be used in vaccines for the inhibition or control of reproduction in vertebrates, where the TraTp acts as an adjuvant.
                                                                                              Sequence
                                                                                                                                                                                                                           Example
                                                                                                                                                                                                                                             Fusion proteins comprising LHRH analogue and TraTp (analogue) useful in vaccine for inhibition or control of reproduction i vertebrates, esp. domestic animals
                                                                                                                                                                                                                                                                                                                        Russell-Jones GJ,
                                                                                                                                                                                                                                                                                                                                                                                     24-AUG-1990;
                                                                                                                                                                                                                                                                                                                                                                                                           07-MAR-1991.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TraT protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Plasmid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R11178;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R11178 standard; Protein; 257
                                                                                                                                                                                                                                                                                                                                            (BIOT-) BIOTECHN
                                                                                                                                                                                                                                                                                                                                                                 25-AUG-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                WO9102799-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      immunological castration.
 104
                     2 HWSYGLRPGSS 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 hwsyglrpgs 11
                                                                                                                                                                                                                                                                                        1991-087282/12.
DB; Q10999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HWSYGLRPGS 11
hwsyglrpggs 114
                                          l Similarity
10; Conserv
                                                                                                                                                                                                                          1; Fig 2 and 3; 53pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pBTA735-encoded TraTp-LHRH
                                                                                              257
                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Leutinizing
                                                                                               A
                                                                                                                                                                                                                                                                                                                                                                 89AU-0005979
                                                                                                                                                                                                                                                                                                                                                                                      90WO-AU00373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= TraTp
103..112
                                                                                                                                                                                                                                                                                                                                            AUST PTY L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= TraTp-LHRH fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= LHRH analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                        Stewart AG,
                                                      59
                                                      . 9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hormone releasing
                                           0;
                                                     Score 62; DB 12;
Pred. No. 0.96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĀΑ
                                           Mismatches
                                                                                                                                                                                                                                                                                                                       Tsonis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     fusion protein.
                                                                                                                                                                                                                                                                                                                        င္ပ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hormone;
                                                              Length 257
                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein;
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RESULT
W03943
XEXTXAXI
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                                                                                                                                                                       Query Match
Best Local :
                                                                                                                                                             Matches
                                                                                                                                                                                                                               Plasmid pBTA740 is a TraTp-LHRH analogue fusion in which the LHRH analogue has been inserted between amino acids 236 and 237 of TraTp (Ogata R.T. et al., (1982) J.Bacteriol. 151:819-827). The synthetic LHRH analogue was inserted via a linker which provides a unique new Smal site located between codons such that the LHRH is inserted in frame. The fusion protein can be used in vaccines for the inhibition or control of reproduction in vertebrates, where the TraTp acts as an adjuvant.
                                                                                                                                                                                                                                                                                                                                                                   Fusion
useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07-MAR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R11183 standard; Protein;
       LKT-GnRH protein fusion from pCBlll.
                            20-NOV-1996
                                                                   W03943 standard; Protein; 544 AA
                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                   Example 1; Fig 2 and 3; 53pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                               Russell-Jones GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-AUG-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-AUG-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TraT protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Plasmid pBTA740-encoded TraTp-LHRH fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R11183;
                                                                                                                                                                                                                                                                                                                                                          vertebrates,
                                                                                                                                                                                                                                                                                                                                                                                                                                                   (BIOT-) BIOTECHN AUST PTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      immunological
                                                                                                                      239
                                                                                       13
                                                                                                                              2 HWSYGLRPGSS 12
                                                                                                                     hwsyglrpggs 249
                                                                                                                                                            l Similarity
10; Conserv
                                                                                                                                                                                                                                                                                                                                                                 proteins comprising LHRH analogue and TraTp (analogue) in vaccine for inhibition or control of reproduction in
                                                                                                                                                                                                              257
                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                       esp.
                           (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       castration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Leutinizing hormone releasing hormone; fusion protein;
                                                                                                                                                                                                              ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89AU-0005979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90WO-AU00373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label= TraTp-LHRH fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'label= LHRH analogue
                                                                                                                                                                                                                                                                                                                                                    domestic animals
                                                                                                                                                                                                                                                                                                                                                                                                                               Stewart AG,
                                                                                                                                                                     59.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TraTp signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   257
                                                                                                                                                            0;
                                                                                                                                                                      Score 62;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA
                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                               Tsonis CG
                                                                                                                                                                        0
                                                                                                                                                                                DВ
                                                                                                                                                                       . 96;
                                                                                                                                                                               12;
                                                                                                                                                            ۲,
                                                                                                                                                                              Length 257;
                                                                                                                                                            Indels
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Best Local
                                                                                                                                                                                                                                                                                                                              and a 4-copy gonadoliberin-releasing hormone (GnRH) repeat sequence (see also W03944). It is the product of a chimeric gene (T3717) produced by deleting an approx. 1300 bp sequence from pCB13 (see also T37176) coding for amino acids 352-784 of LKT-352. Recombinant plasmid pCB111 (LKT 111:4 copy GnRH, ATCC 69748) was obtd. Escherichia coli transformants produced the chimeric protein, which is useful as a vaccine for fertility
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gonadotropin-releasing hormone multimer fusion proteins - will leukotoxin polypeptide for increased immunogenicity, useful antifertility vaccine prodn.
                                Chimera; pCB111; cytotoxic activi:
                                                               LKT-GnRH chimeric protein.
                                                                                      24-DEC-1998
                                                                                                            W79570;
                                                                                                                              W79570 standard; Protein; 544
                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                            animals
                                                                                                                                                                                                                                                                                                                       control,
                                                                                                                                                                                                                                                                                                                                                                                                                       A chimeric protein (W03943) is composed of a fusion between
                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 8; Fig 7A-7E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Manns
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24-JAN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-AUG-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W09624675-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Leukotoxin; LKT; gonadotropin-releasing hormone; GnRH; fusion protein; immunogen; vaccine; fertility control; contraceptive; sterilisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Domain
                                                                                                                                                                                    495 hwsyglrpgs
                                                                                                                                                                                                                               Local Similarity
nes 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                             truncated leukotoxin (LKT-111) from Pasteurella haemolytica
                                                                                                                                                      14
                                                                                                                                                                                                          2 HWSYGLRPGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1996-384447/38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T37177.
                                                                                                                                                                                                                                                                                                                      esp. immunological sterilisation of domestic or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pasteurella
                                activity;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Potter AA;
                                                                                                                                                                                                                                                                                      544
                                                                                                                                                                                                                                 Conservative
                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               96WO-CA00049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95US-0387156
                                                                                                                                                                                       504
                                                                                                                                                                                                          H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= GnRH_repeat_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label= LKT
494..544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                        LKT 111;
                                                                                                                                                                                                                                                                                                                                                                                                                                            87pp; English.
                                antigen
                                                                                                                                                                                                                                          59.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            haemolytica
                             GnRH; Gonadotropin releasing hor
en presentation; immune response;
                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                          Score 62;
Pred. No.
                                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            strain
                                                                                                                                                                                                                                          1.9
                                                                                                                                                                                                                                           .9;
                                                                                                                                                                                                                                                      17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B122
                                                                                                                                                                                                                                0,;
                                                                                                                                                                                                                                                    Length 544
                                                                                                                                                                                                                                 Indels
                                hormone; mul
nse; vaccine;
                                                                                                                                                                                                                                                                                                                       farm
                                                                                                                                                                                                                                0;
                                         multimer;
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Synthetic

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W79573
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Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   which enables there to be an increase in antigen presentation and thus an optimal immune response. The removal of this region also enables the truncated LKT to be expressed at much higher levels and allows the amount of antigen administered to be reduced. This chimeric protein comprises a leukotoxin polypeptide, several multimers, and a GnRH sequence. The chimeric protein can be used as a vaccine to help reduce the incidence of mammary tumours in a mammalian individual.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chimeric protein of leukotoxin and gonadotropin releasing useful for, e.g. preparation of vaccines for reduction of of mammary tumours in mammals
                               (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence represents the LKT-GnRH chimeric protein from pCB111. This plasmid contains the LKT 111 polypeptide fused to four copies of the GnRH peptide. This chimera lacks cytotoxic activity
                                                        09-AUG-1996;
                                                                                                                                                    Synthetic.
                                                                                                                                                                                      Chimera; pCB122; LKT 111; GnRH; Gonadotropin releasing hormone; multimer; cytotoxic activity; antigen presentation; immune response; vaccine;
                                                                                                                                                                                                                                                  24-DEC-1998
                                                                                                                                                                                                                                                                         W79573;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1998-159540/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Manns JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          09-AUG-1996;
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                                                                              08-AUG-1997;
                                                                                                      19-FEB-1998
                                                                                                                             WO9806848-A1
                                                                                                                                                                             tumour.
                                                                                                                                                                                                                         LKT-GnRH chimeric protein.
                                                                                                                                                                                                                                                                                              W79573 standard; Protein; 695
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
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                                                                                                                                                                                                                                                                                                                                                       495 hwsyglrpgs 504
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                                                                                                                                                                                                                                                                                                                                                                   HWSYGLRPGS 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         V61532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Potter AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              544 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Figure 7.1-5; 118pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SASKATCHEWAN
                                                                                                                                                                                                                                               (first entry)
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                                                        96US-0694865
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100.0%;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     incidence
                                                                                                                                                                                                                                                                                                                                                                                                     0;
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Manns JG,

Potter AA;

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Search completed:
Job time: 911 sec
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                                                                                                                   QΥ
                                                                                                                                                       Matches
                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                     The present sequence represents the LKT-GnRH chimeric protein from pCB122. This plasmid contains the LKT 111 polypeptide fused to sixteen copies of the GnRH peptide, in the pattern of: 8 copies of GnRH-LKT 111-8 copies of GnRH. This chimera lacks cytotoxic activity which enables there to be an increase in antigen presentation and thus an optimal immune response. The removal of this region also enables the truncated LKT to be expressed at much higher levels and allows the amount of antigen administered to be reduced. This chimeric protein comprises a leukotoxin polypeptide, several multimers, and a GnRH sequence. The chimeric protein can be used as a vaccine to help reduce the incidence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    useful for, e.g. preparation of vaccines for of mammary tumours in mammals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1998-159540/14.
N-PSDB; V61535
                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                          mammary tumours in a mammalian individual.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 9; Figure 9.1-6; 118pp; English.
                                                                                    10
                                                                                                                                                   Local Similarity les 10; Conserv
                                                                                                    2 HWSYGLRPGS 11
                                                                                hwsyglrpgs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein of leukotoxin and gonadotropin releasing hormone or, e.g. preparation of vaccines for reduction of incidence
                                                                                                                                                                                                                                         695 AA;
                                                                                                                                                       Conservative
                March
                                                                                    19
                2
                                                                                                                                                                     59.6%;
100.0%;
                2001,
                                                                                                                                                       0; Mismatches
                 10:53:46
                                                                                                                                                                       Score 62;
Pred. No.
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2.4;
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Result
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Maximum
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                                                                                                                                                                                                               Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB seq
                                                                                                                     Score
                                            103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein search, using sw model
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length: 2000000000
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Match
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Gapop 10.0 , Gapext 0.5
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(cgn2_6/ptodata/2/paa/US086_COMB.pep:*
2: (cgn2_6/ptodata/2/paa/US087_COMB.pep:*
2: (cgn2_6/ptodata/2/paa/US089_COMB.pep:*
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3: (cgn2_6/ptodata/2/paa/US097_COMB.pep:*
4: (cgn2_6/ptodata/2/paa/US097_NEW_COMB.pep:*
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6: (cgn2_6/ptodata/2/paa/US097_NEW_COMB.pep:*
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7: (cgn2_6/ptodata/2/paa/US097_NEW_COMB.pep:*
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cgn2_6/ptodata/2/paa/US081_COMB.pep:*
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(c) 1993 - 2000 Compugen Ltd
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    PCT-US95-01225-6
US-08-478-546B-6
7 US-09-305-924-4
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PCT-US95-01225-2
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Sequence 6, Appli
Sequence 4, Appli
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٠, 4	•	Sequence 32, Appl	28,	ce 15:	47,	Sequence 45, Appl	43,	11,	Sequence 1148,	Sequence 1148,	ים	D (Sequence 1148, Ap	1148	sequence 26, App	24,	22	2	œ i	1		Sequence 10, Ap		11,	11,	e 7,	4	Sequence 28, Appl	18,	27,	27,	Sequence 23, App	e 23.	დ ლ	6	Sequence 2, Appl

ALIGNMENTS

PCT-US95-01235-6

FOT-US95-01235-6

Sequence 6, Application PC/TUS9501225

GENERAL INFORMATION:

GENERAL INFORMATION:

FARTHER OF INVENTION: Immunogens Against Gonadotropin TITLE OF INVENTION: Releasing Hormone

NUMBER OF SEQUENCES: 11

CORRESPONDENCE ADDRESS:

ADDRESSEE: Dimitrios T. Drivas, Esq.

STREET: 1155 Avenue of the Americas

CITY: New York

STATE: NY

COUNTRY: USA
ZIP: 10036-2787

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTMARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION NUMBER: PCT/US95/01225

FILING DATE:

CLASSIFICATION:

APPLICATION NUMBER: PCT/US95/01225

FILING DATE:

CLASSIFICATION NUMBER: 32,218

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US-08-478-546B-6
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Best Local Similarity
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                                                                                                                            APPLICATION NUMBER: US/08/478,546B
FILING DATE: 07-JUN-1995
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/188,223
FILING DATE: 27-JAN-1994
CLASSIFICATION: 424
INFORMATION FOR SEQ
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                             REGISTRATION NUMBER: 32,218
REFERENCE/DOCKET NUMBER: 110
-TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-819-8286
                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Drivas Esq., Dimitrios T.
REGISTRATION NUMBER: 32,218
                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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LENGTH: 17 amino acids
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ADDRESSEE: Dimitrios T. Drivas, Esq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Methods for the Treatment of Hormone-Dependent TITLE OF INVENTION: Tumors with Immunogens against Gonadotropin Re
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MOLECULE TYPE: peptide
HYPOTHETICAL: YES
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-819-8286
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LOCATION: 11.17
OTHER INFORMATION:
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LOCATION:
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                 212-354-8113
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Scibienski, Robert
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Pred. No. 1e-05;
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                                                                                                                                                                                                                                                                       Version #1.25
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; LOCATION: (1) OTHER INFORMATION: Xaa is pyroglutamic acid US-09-305-924-4
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; OTHER INFORMATION:
US-08-478-546B-6
       Sequence 4, Application US/09306689B
GENERAL INFORMATION:
APPLICANT: Robbins, Sarah C.
TITLE OF INVENTION: METHODS FOR SUPPRESSING REPRODUCTIVE BEHAVIOR IN
TITLE OF INVENTION: ANIMALS
                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 4
                                                                                                                                                                                                Matches
                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Application US/09305924A GENERAL INFORMATION:
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Best Local 9
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                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/305,924A
CURRENT FILING DATE: 1999-05-05
EARLIER APPLICATION NUMBER: US 60/084,217
EARLIER FILING DATE: 1998-05-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Stephen D. Acres
APPLICANT: Richard Harland
TITLE OF INVENTION: METHODS OF RAISING ANIMALS FOR MEAT PRODUCTION
FILE REFERENCE: 9001-0048
                                                                                                                                                                                                                                                                                                                                                      LENGTH: 17
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Jack G. Manns
FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                         ORGANISM: GnRH
                                                                                                                                                                                                                                                                                                              NAME/KEY: MOD_RES
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LENGTH: 17 amino acids
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GY: linear
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Pred. No.
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; OTHER INFORMATION:
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US-09-306-689-4
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Best Local Similarity 100.
The conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EARLIER APPLICATION NUMBER: US 60/088,024 EARLIER FILING DATE: 1998-06-04 NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/306,689B CURRENT FILING DATE: 1999-05-06
                                                                                                                                            TELEFAX: 212-354-8113
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Ver. 2.0
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NAME/KEY: MOD_RES
LOCATION: (1)
OTHER INFORMATION: xaa is pyroglutamic acid
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TYPE: PRT
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                                                                                                                                                                                                                                  CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Drivas Esg., Dimitrios T.
REGISTRATION NUMBER: 32,218
REFERENCE/DOCKET NUMBER: 1102865-300
                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/01225
                                                                                                                                                                                                  TELEPHONE: 212-819-8286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Grimes, Stephen APPLICANT: Scibienski, Rob
                                                                                  MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
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                                                                  HYPOTHETICAL:
 OTHER INFORMATION:
                 LOCATION:
                   NAME/KEY: Region LOCATION: 1..10
                                                                                                     TOPOLOGY:
                                                                                                                                                                                                                                                                                                                        FILING DATE:
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                                                                                                                   amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New York
                                                                                                                                16 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                  linear
                                                                    peptide
YES
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100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Immunogens Against Gonadotropin Releasing Hormone
/note= "immunomimic"
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Best Local Similarity
                                                                                                                                                                                                                         TELEFAX: 212-354-8113
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                        NAME: Drivas Esq., Dimitrios T. REGISTRATION NUMBER: 32,218 REFERENCE/DOCKET NUMBER: 110286 TELECOMMUNICATION INFORMATION: TELEPHONE: 212-819-8286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                           MOLECULE TYPE: peptide FEATURE:
                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Drivas Esq., Dimit.
                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 424
PRIOR APPLICATION NUMBER: US 08/188,223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: Methods for the Treatment of Hormone-Dependent TITLE OF INVENTION: Tumors with Immunogens against Gonadotropin Releasing Hormo
                                               FEATURE:
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             NAME/KEY:
LOCATION:
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TELEPHONE: Z12-354-8113
TO TO NO:
                                                            OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 27-JAN-1994
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/01 FILING DATE: 07-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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LOCATION:
OTHER INFORMATION:
                                                                                                                                                            TOPOLOGY:
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OTHER INFORMATION:
                                                                                            LOCATION:
                                                                                                          NAME/KEY: Modified site
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10036-2787
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1155 Avenue of the Americas
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Scibienski, Rob
             Region
1..10
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87.5%;
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/note= "pyroglutamic acid (5-oxoproline)"
                                                            /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Release #1.0, Version
/note= "immunomimic"
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                                                         Xaa
"pyroglutamic
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NAME/KEY: MOD_RES
LOCATION: (1)
THER INFORMATION: Xaa is pyroglutamic acid
US-09-305-924-5
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Best Local Similarity
                                                                                                                                                         SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
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Best Local Similarity
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                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/306,689B
CURRENT FILING DATE: 1999-05-06
EARLIER APPLICATION NUMBER: US 60/088,024
EARLIER FILING DATE: 1998-06-04
NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                    APPLICANT: Robbins, Sarah C.
TITLE OF INVENTION: METHODS FOR SUPPRESSING REPRODUCTIVE BEHAVIOR
TITLE OF INVENTION: ANIMALS
FILE REFERENCE: 9001-0047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/305,924A CURRENT FILING DATE: 1999-05-05
EARLIER APPLICATION NUMBER: US 60/084,217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Stephen D. Acres
APPLICANT: Richard Harland
TITLE OF INVENTION: METHODS OF FAISING ANIMALS FOR MEAT PRODUCTION
FILE REFERENCE: 9001-0048
                                                                                                                                                                                                                                                                                                                                         APPLICANT: Robbins,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EARLIER FILING DATE: 1998-05-05
NUMBER OF SEQ ID NOS: 14
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              FEATURE: MOD_RES
NAME/KEY: MOD_RES
LOCATION: (1)
OTHER INFORMATION: Xaa is pyroglutamic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Ver. 2.0
                                                                                                   TYPE: PRT
ORGANISM: Artificial Sequence
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OTHER INFORMATION: Description of Artificial Sequence: Sequence
                                                                                                                                        ENGTH: 16
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OTHER INFORMATION:
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Fred. No. 0.00
0; Mismatches
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Pred. No. 0.00
0; Mismatches
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; OTHER INFORMATION: Description of Artificial Sequence: 4GnRH-tmgD; OTHER INFORMATION: encoded by pQE-GnRH:gD.
US-60-120-454-23
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                                                                                                                                        EARLIER FILING DATE: 1999-02-17
NUMBER OF SEQ ID NOS: 46
SOFTWARE: PATENTIN Ver. 2.0 - be
SEQ ID NO 23
                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 23, Applica GENERAL INFORMATION:
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Best Local Similarity
Matches 14; Conserv
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Best Local Similarity
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TITLE OF INVENTION: FUSION PROTEINS COMPRISING CARRIERS THAT CAN INDUCE
TITLE OF INVENTION: DUAL IMMUNE RESPONSE
FILE REFERENCE: PC10202A
CURRENT APPLICATION NUMBER: US/09/506,078
CURRENT FILING DATE: 2000-02-16
EARLIER APPLICATION NUMBER: WAA
EARLIER FILING DATE: 1999-02-17
NUMBER OF SEQ ID NOS: 46
                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/60/120,454
CURRENT FILING DATE: 1999-02-17
EARLIER APPLICATION NUMBER: N/A
                                                                                                                                                                                                                                                                         APPLICANT: Martinod, Serge
APPLICANT: DUTESCH, Becky A
TITLE OF INVENTION: FUSION PROTEINS COMPRISING CARRIERS THAT CAN INDUCE
TITLE OF INVENTION: DUAL IMMUNE RESPONSE
FILE REFERENCE: PC10202
FILE REFERENCE: PC10202
                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Campos, Manuel APPLICANT: Yule, Terecita
                                                                          TYPE: PRT ORGANISM: Artificial Sequence
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                                                             FEATURE:
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                                                                                                                     LENGTH: 411
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             50 HWSYGLRPGSMSLPTP 65
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87.5%;
                                                                                                                                                              2.0 - beta
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Pred. No. 4.
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Pred. No. 0.
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; OTHER INFORMATION: Description of Artificial Sequence: THER INFORMATION: 4GnRH-tmgD-4GnRH encoded by PQE-GnRH:gD:GnRH US-60-120-434-27
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US-60-120-454-27
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                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/60/120,454
CURRENT FILING DATE: 199-02-17
EARLIER APPLICATION UNMER: N/A
EARLIER FILING DATE: 1999-02-17
NUMBER OF SEQ ID NOS: 46
SOFTMARE: Patentin Ver. 2.0 - beta
SEQ ID NO 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 27, Application US/09506078
GENERAL INFORMATION:
APPLICANT: Pfizer Products Inc
TITLE OF INVENTION: FUSION PROTEINS COMPRISING CARRIERS THAT CAN INDUCE
TITLE OF INVENTION: DUAL IMMUNE RESPONSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 27, Application US/60120454 GENERAL INFORMATION:
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Best Local Similarity
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                 Query Match
Best Local Similarity
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CURRENT APPLICATION NUMBER: US/09/506,078
CURRENT FILING DATE: 2000-02-16
EARLIER APPLICATION NUMBER: N/A
                                                                                                                                                                                                                                                                                                                             APPLICANT: MARTINOD, Serge
APPLICANT: DURTESH, BECKY A
TITLE OF INVENTION: FUSION PROTEINS COMPRISING CARRIERS THAT CAN INDUCE A
TITLE OF INVENTION: DUAL IMMUNE RESPONSE
FILE REFERENCE: PC10202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EARLIER FILING DATE: 1999-02-17
NUMBER OF SEQ ID NOS: 46
SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Campos, Manuel APPLICANT: Yule, Terecita
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Artificial Sequence
                                                                                                                                      FEATURE:
                                                                                                                                                      ORGANISM: Artificial Sequence
                                                                                                                                                                          TYPE: PRT
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                                                                                                                                                                                          LENGTH: 442
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         50 HWSYGLRPGSMSLPTP 65
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                 Score 65.5; D
Pred. No. 4.8;
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Pred. No. 4
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Mismatches
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Mismatches
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RESULT 14
US-08-160-882-28
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                                                                                                                                            Query Match
Best Local
                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 60(
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
TELEFAX: (202)672-5399
TELEX: 904126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 25-JUN-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/I
FILING DATE: 24-AUG-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/690,983
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                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: TraT/Neuropeptide-Y Fusion Proteins NUMBER OF SEQUENCES: 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0
                                                                                                                                                                                                                                                                                                                                                                                                          NAME: BENT, Stephen A REGISTRATION NUMBER: :
                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: AU PJ 5979 FILING DATE: 25-AUG-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: FILING DATE: 03-DEC
                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
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                                                                                             2 HWSYGLRPGSS 12
                                                              5 HWSYGLRPGGS 15
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                                                                                                                              10;
                                                                                                                                            Similarity
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                                                                                                                                                                                                                                                          amino acid
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                                                                                                                              Conservative
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                                                                                                                                                                                                                            protein
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03-DEC-1993
                                                                                                                                            59.68;
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                                                                                                                                                                                                                                                                                                                                                                                           60042/119/BIAU
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                                                                                                                                              Score 62; DB Pred. No. 0.7
                                                                                                                              Mismatches
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                                                                                                                                                           DB 5;
                                                                                                                                                          Length 17;
                                                                                                                             Indels
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                                                                                                                             Gaps
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Sequence 28, Application US/08160882 GENERAL INFORMATION:

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APPLICANT: Russel-Jones, Gregory J.
APPLICANT: Stewart, Andrew G.
APPLICANT: Tsonis, Con G.
TITLE OF INVENTION: TraT/Neuropepti

TraT/Neuropeptide-Y Fusion Proteins
55

CORRESPONDENCE ADDRESS:

ADDRESSEE: Foley & Lardner
STREET: 3000 K Street, N.W., Suite 500
CITY: Washington, D.C.

COUNTRY:

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US-09-019-010-4
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Best Local Similarity
Matches 10; Conserva
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: AU PJ 5979
FILING DATE: 25-AUG-1989
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 60042/119/BIAU
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
TELEFAX: (202)672-5399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS: LENGTH: 18 amino acids
              COMPUTER READABLE FORM:
MEDIUM TYPE: F10ppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: PCT/AU90/00373 FILING DATE: 24-AUG-1990 PRIOR APPLICATION DATA:
                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: ROBINS & ASSOCIATES
STREET: 90 MIDDLEFIELD ROAD, SUITE 200
                                                                                                                                                                                                                                                                          APPLICANT: HARLAND, RICHARD
APPLICANT: MANNS, JOHN G.
APPLICANT: ACRES, STEPHEN D.
TITLE OF INVENTION: IMMUNIZATION AGAINST ENDOGENOUS
TITLE OF INVENTION: MOLECULES
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APPLICATION NUMBER: US 07
FILING DATE: 25-JUN-1991
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COMPUTER: IBM PC compatible
OPERATING SYSTEM PC-DOS/MS-DOS
COETUANDE: Detentin Dallace #1 0
                                                                                                                   COUNTRY: UZIP: 94025
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                                                                                                                                                                             CITY: MENLO PARK
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APPLICATION DATA:
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90.9%;
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Search completed: March Job time: 373 sec
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                                                                                                                                        Query Match
Best Local Similarity
Matches 10; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 424
PRIOR APPLICATION NUMBER: 1
                                                                                                                                                                                                                              MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                            REGISTRATION NUMBER: 38,548
REFERENCE/DOCKET NUMBER: 90
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 325-7812
                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 05-FEB-1997
ATTORNEY/AGENT INFORMATION:
NAME: MCCRACKEN, THOMAS P.
                                                                                                                                                                                                                                                   LENGTH: 45 cm. TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: FILING DATE: 05-FEE
                                                                                                 2 HWSYGLRPGS 11
                                                                                                                                                                                                                                                                                  49 amino acids
                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   UMBER: US/09/019,010
05-FEB-1998
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                                                                                                                                           Mismatches
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Sequence 2, Appli
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Sequence 5, Appli
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15-01225-2 15-01225-2		COMMON COMMON
SULT 1 1-US95-01225-2 1-US95-01225-2 Sequence 2, Application PC/TUSEGERAL INFORMATION: SELERAL INFORMATION: SELERAL INFORMATION: APPLICANT: Scibienski, RUSHITLE OF INVENTION: Immul TITLE OF INVENTION: Relea NUMBER OF SEQUENCES: 11 CORRESPONDENCE ADDRESS: ADDRESSEE: Dimitrios T STREET: 1155 Avenue of CITY: New York STATE: NY COUNTRY: USA ZOUNTRY: POPPY COMPUTER: FILDRY PC-OW SOFTWARE: PATENTIN NOMBER: PC-OW SOFTWARE: PATENTIN NOMBER: PC-OW CLASSIFICATION NAME: Drivas Esq., Dim: REGISTRATION NUMBER: 3:		$\begin{matrix} & & & & & & & & & & & & & & & & & & &$
Ccation PC/TUS950 IION: Stephen IIIDION: Stephen IIIDION: FILE IIDION: FILE IIDION: FILE IIDION: FILE IIDION: IIIDION: IIDION: IIDION: IIDION: IIDION: IIDION: IIDION: IIDION: IIIDION: IIDION:		17 117 116 117 117 118 119 119 119 119 119 119 119 119 119
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TUS9501225 hen Robert	ALIGNMENTS	US-08-478-546B-6 US-09-305-924-4 US-09-305-689-4 US-09-341-590-103 US-09-341-590-104 PCT-US00-22121-26 PCT-US00-22121-30 US-08-476-013-12 US-08-477-298-10 US-09-374-721A-26 US-09-374-721A-30 US-08-476-013-11 US-08-476-013-12 US-08-476-013-13 US-08-477-298-11 US-09-576-078-23 US-09-576-078-23 US-09-576-078-27 US-09-576-776-153 PCT-US00-22121-32
		Sequence 6, Appli Sequence 4, Appli Sequence 103, Appl Sequence 104, Appl Sequence 104, Appl Sequence 10, Appl Sequence 10, Appl Sequence 10, Appl Sequence 11, Appl Sequence 12, Appl Sequence 12, Appl Sequence 13, Appl Sequence 14, Appl Sequence 11, Appl Sequence 13, Appl Sequence 14, Appl Sequence 14, Appl Sequence 35, Appl Sequence 35, Appl Sequence 37, Appl Sequence 37, Appl Sequence 38, Appl Sequence 27, Appl Sequence 28, Appl Sequence 27, Appl Sequence 27, Appl Sequence 28, Appl Sequence 27, Appl Sequence 27, Appl Sequence 28, Appl Sequence 27, Appl Sequence 28, Appl Sequence 27, Appl Sequence 32, Appl Sequence 32, Appl Sequence 33, Appl Sequence 4, Appli Sequence 4, Appli Sequence 15, Appli Sequence 15, Appli Sequence 17, Appli Sequence 18, Appli Sequence 18, Appli Sequence 19, Appli Sequence 11, Appli

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GENERAL INFORMATION:
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Best Local Similarity
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                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
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              TELECOMMUNICATION INFORMATION: TELEPHONE: 212-819-8286
                                                                ATTORNEY/AGENT INFORMATION:
NAME: Drivas Esq., Dimitrios T.
REGISTRATION NUMBER: 32,218
                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/188,223
FILING DATE: 27-JAN-1994
                                                                                                                                                                                                                                          SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: peptide HYPOTHETICAL: YES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-819-8286
                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Methods for the Treatment of Hormone-Dependent TITLE OF INVENTION: Tumors with Immunogens against Gonadotropin Releasing Hormone
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LOCATION:
                                 REFERENCE/DOCKET NUMBER: 110
                                                                                                                      CLASSIFICATION: 424
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                                                                                                                                                                                                        APPLICATION NUMBER: FILING DATE: 07-JUN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                E: Dimitrios T. Drivas, Esq
1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   212-354-8113
                                                                                                                                                                                                                                                                                                                                                                  USA
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212-354-8113
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/note= "pyroglutamic acid (5-oxoproline)"
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Fred. No.
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; LOCATION: (1)
; OTHER INFORMATION: Xaa is pyroglutamic acid
US-09-305-924-5
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                            GENERAL INFORMATION: APPLICANT: Robbins,
                                                        Sequence 5, Application US/09306689B
                                                                                                                                                                                        Matches
                                                                                                                                                                                                     Best
                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: GnRH
FEATURE:
TITLE OF INVENTION: METHODS
                                                                                                                                                                                                                                                                                                                                                                                                      EARLIER FILING DATE: 1998-05-05
NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/09/305,924A CURRENT FILING DATE: 1999-05-05 EARLIER APPLICATION NUMBER: US 60/084,217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Stephen D. Acres
APPLICANT: Richard Harland
TITLE OF INVENTION: METHODS OF RAISING ANIMALS FOR MEAT PRODUCTION
FILE REFERENCE: 9001-0048
                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Jack G. Manns
                                                                                                                                                                                                                                                                                                                                                              LENGTH: 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 16 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
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LENGTH: 16 amino acids
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OTHER INFORMATION:
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              FOR SUPPRESSING REPRODUCTIVE BEHAVIOR IN
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Pred. No.
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"pyroglutamic acid"
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1.7e-05;
hes 0;
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Best Local Similarity
Matches 15; Conserva
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                                                                                                                                    TELEFAX: 212-33, CO: 6
INFORMATION FOR SEQ ID NO: 6
SEQUENCE CHARACTERISTICS:
SEQUENCE 17 amino acids
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NUMBER OF SEQ ID NOS: 14
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OTHER INFORMATION:
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LOCATION: (1)
OTHER _INFORMATION: Xaa is pyroglutamic acid
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LENGTH: 16
                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FORM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0
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TELECOMMUNICATION INFORMATION:
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APPLICANT:
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                                                                                                        OLECULE TYPE:
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                                                                                        YPOTHETICAL:
                                                                                                                                                                                                                                                            NAME: Drivas Esq., Dimitrios T. REGISTRATION NUMBER: 32,218
                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                              FILING DATE:
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           INFORMATION:
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1155 Avenue of the Americas
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/label= pGlu
/note= "pyroglutamic acid (5-oxoproline)"
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Best Local
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                                                                                                                                                                                                                                                              TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 424
PRIOR APPLICATION DATA:
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CLASSIFICATION:
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                           OTHER INFORMATION:
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1155 Avenue of the Americas
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87.5%;
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Tumors with Immunogens aga
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"pyroglutamic
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st Gonadotropin Releasing Hormo
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OTHER INFORMATION:

/note= "spacer"

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Best Local
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Best Local
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                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/306,689B
CURRENT FILING DATE: 1999-05-06
EARLIER APPLICATION NUMBER: US 60/088,024
EARLIER FILING DATE: 1998-06-04
                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: METHODS FOR SUPPRESSING REPRODUCTIVE BEHAVIOR IN TITLE OF INVENTION: ANIMALS FILE REFERENCE: 9001-0047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/305,924A
CURRENT FILING DATE: 1999-05-05
EARLIER APPLICATION NUMBER: US 60/084,217
EARLIER FILING DATE: 1998-05-05
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TITLE OF INVENTION: METHODS OF RAISING ANIMALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Stephen D. Acres
                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 14
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                             LOCATION: (1)
OTHER INFORMATION: Xaa is pyroglutamic acid
                                                                                     ORGANISM: Artificial Sequence FEATURE:
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OTHER INFORMATION: Description of Artificial Sequence: Sequence
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Pred. No. 0.00
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Query Match
Best Local Similarity
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US-09-341-590-103
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US-09-341-590-104
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                                                                             SOFTWARE: Pa
SEQ ID NO 104
LENGTH: 16
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LENGTH: 16
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APPLICANT: Larsen, Bjarne Due
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Best Local Similarity
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Best Local Similarity
                                                                                                                                                                                                                                                                                                      Sequence 104,
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
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                                                                                                                                                                                 FILE REFERENCE: PPT-20479-US
CURRENT APPLICATION NUMBER: US/09/341,590
CURRENT FILING DATE: 1999-07-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: PPT-20479-US
CURRENT APPLICATION NUMBER: US/09/341,590
CURRENT FILING DATE: 1999-07-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
TITLE OF INVENTION:
FILE REFERENCE: PPT
                                                                                                                                                 PRIOR APPLICATION NUMBER: DK (PRIOR FILING DATE: 1998-03-09)
                                                                                                                                                                                                                                  TITLE OF INVENTION:
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                                                                                                                                   NUMBER OF SEQ ID NOS:
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                               ORGANISM: Artificial Sequence FEATURE:
                                                                TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
              OTHER INFORMATION: Description of Artificial Sequence: GnRH-(Lys-Glu)3
                                                                                                                                                                                                                                                                                                                                                                                         2 HWSYGLRPGK 11
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                                                                                                                  PatentIn Ver. 2.0
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                                                                                                                                                                                                                                                                                                     Application US/09341590
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                                                                                                                                                                                                                                     REDUCED TENDENCY
                                                                                                                                                                                                                                    PHARMACOLOGICALLY ACTIVE REDUCED TENDENCY TOWARDS
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87.5%;
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90.0%;
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Pred. No.
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Pred. No. 0.0017;
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0.98;
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2 HWSYGLRPGK 11

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; Sequence 26, Application PC/TUS0022121
; GENERAL INFORMATION:
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                                                                                                 Query Match
Best Local Similarity
Thes 9; Conserv
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RESULT
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SEQ ID NO 30
LENGTH: 20
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Best Local Similarity
Matches 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: US 09/374,721
PRIOR FILING DATE: 1999-08-13
NUMBER OF SEQ ID NOS: 35
                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: PCT/US00/22121
CURRENT FILING DATE: 2000-08-14
PRIOR APPLICATION NUMBER: 09/026,276
PRIOR FILING DATE: 1998-02-19
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PRIOR APPLICATION NUMBER: 09/026,276
PRIOR FILING DATE: 1998-02-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Proteinix Company
TITLE OF INVENTION: HEAT SHOCK FUSION-BASED VACCINE SYSTEM
FILE REFERENCE: IGN-2004WO
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SOFTWARE: PatentIn V
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Description of Artificial Sequence: polypeptide OTHER INFORMATION: antigen
                                                                                                                                                                                                                     OTHER INFORMATION: Description of Artificial Sequence: polypeptide OTHER INFORMATION: antigen
                                                                                                                                                                                                                                                       ORGANISM: Artificial Sequence FEATURE:
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                                                 HWSYGLRPGQ 11
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90.0%;
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                                                                                                                                   Score 59;
Pred. No. 1
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Pred. No. 1.6;
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US-08-476-013-10
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Best Local Similarity
9; Conserve
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FILING DATE: 19910917
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: MOZAN, Thomas F.
REGISTRATION NUMBER: 16,57
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                          TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                 APPLICANT: Wensing, TITLE OF INVENTION:
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APPLICANT:
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TELECOMMUNICATION INFORMATION:
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CURRENT APPLICATION DATA:
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TITLE OF INVENTION: PEPTIDE: IMMUND
TITLE OF INVENTION: OR MEDICINAL PR
TITLE OF INVENTION: IMMUNISING A MA
TITLE OF INVENTION: OF IMPROVING TH
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APPLICANT:
                                                            COUNTRY: US
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CITY: New York City
STATE: New York
                                                                                                     STATE:
                                                                                                               ADDRESSEE: Cooper & Dunham LLP
STREET: 1185 Avenue of the Americas
CITY: New York City
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: (212) 977-9550
TELEFAX: (212) 664-0525
TELEX: 422523 COOP UI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       58.4%;
90.0%;
                                                                                                                                                                                                             PEPTIDE, IMMUNOGENIC COMPOSITION AND VACCINE OR MEDICINAL PREPARATION: A METHOD OF IMMUNISING A MAMMAL AGAINST LHRL, AND A METHOD OF IMPROVING THE MEAT QUALITY OF PIGS
                                                                                                                                                                                                                                                                                        Cornelius J. G.
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Pred. No. 1.6;
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PC-DOS/MS-DOS In Release #1.24

US/08/476,013

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TOPOLOGY: unknown;
MOLECULE TYPE: pept
US-08-476-013-10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
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Best Local Similarity
Matches 9; Conserv
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APPLICANT: Wensing, Cornellus J. G.
TITLE OF INVENTION: A PEPTIDE, IMMUNOGENIC COMPOSITIONS, VACCINES, AND
TITLE OF INVENTION: MEDICINAL PREPARATIONS INCLUDING SAME; AND METHODS
TITLE OF INVENTION: FOR IMMUNIZING A MAMMAL AGAINST LHRH, AND IMPROVING
TITLE OF INVENTION: THE MEAT QUALITY OF PIGS
FILE REFERENCE: 2183-4036US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (212) 391-0525
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                   NAME/KEY: VARIANT
NAME/KEY: VARIANT
LOCATION: (1)
OTHER INFORMATION: Residue may be Pyroglutamic Acid or Gln having
OTHER INFORMATION: attached thereto a tail including one or more
OTHER INFORMATION: additional amino acids
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SOFTWARE: PATENTIN Release
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/
FILING DATE: 06-JUN-1995
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Katz, Robert D.
NAME/KEY: VARIANT LOCATION: (10)...(19)
OTHER INFORMATION: Sequence may repeat creating more than two LHRH OTHER INFORMATION: sequences in tandem .
                                                                                                                                                                                LOCATION: (3)
OTHER INFORMATION: Trp may be formylated
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: Description of Artificial Sequence: at least two OTHER INFORMATION: LHRH peptide sequences in tandem
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Artificial Sequence FEATURE:
                                                                                            LOCATION: (13)
OTHER INFORMATION: TRP may be formylated FEATURE:
                                                                                                                                         NAME/KEY: VARIANT LOCATION: (13)
                                                                                                                                                                                                                             NAME/KEY: VARIANT LOCATION: (3)
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REGISTRATION NUMBER: 30,141
REFERENCE/DOCKET NUMBER: 40
TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (212) 278-0400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           58.4%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 59;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 8;
1.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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; OTHER INFORMATION: Residue may be amidated or may have attached ; OTHER INFORMATION: thereto a tail of one or more additional amino ; OTHER INFORMATION: acids US-08-476-013-12
                                                                                                                       Qy
                                                                                                                                         Query Match
Best Local Similarity
Thes 9; Conserve
Search completed: March
Job time: 373 sec
                                                                                        D
                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: VARIANT LOCATION: (10)..(11) LOCATION: (10)..(11) OTHER INFORMATION: Gly residue may be joined to Gln residue by a OTHER INFORMATION: direct bond or by a spacer made of one or more OTHER INFORMATION: amino acids, a hydrocarbon chain or other groups
                                                                                                                                                                                                                                                                                                                    NAME/KEY: VARIANT LOCATION: (20)
                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                       2 HWSYGLRPGR 11
                                                                                     HWSYGLRPGQ 11
                                                                                                                                                          Conservative
              2,
                                                                                                                                                                              58.4%;
90.0%;
                   2001, 10:59:03
                                                                                                                                                                              Score 59; DB Pred. No. 1.6;
                                                                                                                                                             Mismatches
                                                                                                                                                                                            DB 8;
                                                                                                                                                            0;
                                                                                                                                                                                            Length 20;
                                                                                                                                                            Indels
                                                                                                                                                            0;
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0;

0;

GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.

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Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Run on:
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1: /SIDS1/gcgda
2: /SIDS1/gcgda
3: /SIDS1/gcgda
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         9:
110:
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12:
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101
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/SIDSI/gcgdata/geneseq/geneseqp/AA1989.DAT:*
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8.269 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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Result	Score	% Query Match	% Query Match Length	DB	ID	Description
1	100	99.0	16	16	R78285	GnRH immunomimic a
N	100	99.0	16	21	Y58141	Gonadotropin relea
ω	83.5	82.7	17	16	R78283	GnRH immunomimic a
4	83.5	82.7	17	21	Y58140	Gonadotropin relea
ы	63	62.4	15	15	R44955	E. coli fimbriae H
6	63	62.4	16	15	R44956	E. coli fimbriae H
7	59	58.4	20	19	W47438	Antigenic peptide.
80	59	58.4	20	20	Y31174	Ubiquitin fusion p
9	59	58.4	20	20	Y31178	Ubiquitin fusion p
10	59	58.4	21	Η	R07324	Luteinising hormon
11	. 59	58.4	30	1	R07323	Luteinising hormon
12	59	58.4	40	20	Y31183	Obiquitin fusion p

45	44	43	42	41	40	39	38	37	36	3 5	34	ω ω	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13
58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	59
57.4	.7	7.	7.	7.	7.	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	7.	57.4	57.4	7.	57.4	7.	7.	7.	7.	7.	57.4	7.	57.4	57.4	57.4	58.4
10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	41
21	20	20	20	20	20	19	19	19	19	18	18	<u>1</u> 8	18	17	17	16	16	16	15	13	12	10	œ	7	7	7	6	N	N	2	20	20
Y55061	Y03864	Y31067	Y31180	Y31176	Y50229	W61541	W76373	W76381	W79566	W04612	W16390	W22390	W45642	W65203	W65201	R75152	R86845	R91197	R62689	R26819	R15713	P90630	P70922	P60576	P61403	P60127	P50222	P10416	P10411	P10097	W94891	Y31182
Luteinising hormon		linked p	fusion	Ubiquitin fusion p	Neutrophil-activat	Peptide hormone Gn	Rat GnHR peptide.	Rat modified GnHR	GnRH-1 polypeptide	Lutenizing hormone		3			5		otropin re	peptide	LHRH hapten for at	LH releasing hormo		Sequence of lutein	Luteinising hormon	Novel decapeptide	Gonadotropin relea	Gonadoliberin anta				f	ide frag	Ubiquitin fusion p

ALIGNMENTS

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RESULT
R78285
                                                GnRH immunomimic and spacer (GnRH(1-10)-Arg10).
                                                           13-MAR-1996
                                                                     R78285;
                                                                              R78285 standard; peptide; 16
                                                          (first entry)
                                                                               A
```

Immunomimetic; gonadotropin releasing hormone; GnRH; LHRH; vaccine; luteinising hormone releasing hormone; spacer; immunomimic; uterine; diphtheria toxoid; DT; gynaecological; endometriosis; uterine fibroids; gonadal steroid hormone associated dependent disease; gonadotropin; immunological contraception; mammal; breast; cancer; prostate; benign prostatic hypertrophy.

Chimeric - Homo sapiens. Chimeric - Synthetic.

FH	Кеу	Location/Qualifiers
E.	Modern tod Stoc	/label= OTHER
FΤ		<pre>/note= "pyroglutamic acid"</pre>
Ŧ	Peptide	110
FΤ		/note= "GnRH"
FT	Peptide	1116
Ŧ		/note= "spacer"
×		
P	WO9520600-A1.	
×		
B	03-AUG-1995.	•
×		
ΡF	26-JAN-1995;	95WO-US01225.
×		

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RESULT
Y58141
ID Y
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                      1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New anti-gonadotropin releasing hormone immunogenic composition(s) - used for treating gonadotropin and gonadal steroid hormone dependent disease(s) and providing contraception.
Manns JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gonadotropin releasing hormone (GnRH). These peptides comprise the wild type GnRH sequence and a spacer attached to either the N- or C-terminal. The spacer molecules serve as a link through which the immunomimic is attached to an immunological carrier such as diphtheria toxoid (DT) and also affects the immune response generated by the vaccinated mammal against the immunomimic. Compositions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Grimes S,
                                                                                                                                                                                                                                                             antibody; immunogenic; chimeric; vaccine; testosterone; androgenic; non-androgenic; steroid; reduction; weight gain; muscle distribution; fat distribution; male pattern; boar taint; flavour; impairment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 comprising these peptides may be used for treating a mammal for gonadotropin and gonadal steroid hormone associated dependent disease or for providing immunological contraception in mammals. They can also be used for treating breast cancer, uterine and other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1995-275410/36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-JAN-1994;
                           (BIOS-) BIOSTAR INC
                                                                                 05-MAY-1999;
                                                                                                            11-NOV-1999
                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                  reliable;
                                                                                                                                                                                                                                                                                                                                  Gonadotropin releasing hormone (GnRH) peptide analogue
                                                                                                                                                                                                                                                                                                                                                             07-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                          Y58141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gynaecological cancers, endometriosis, uterine fibroids, cancer, or benign prostatic hypertrophy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1;
                                                                                                                                      W09956771-A2
                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                     Gonadotropin releasing hormone; GnRH; leukotoxin; LKT; fusion protein;
                                                                                                                                                                                                                                                                                                                                                                                                                  Y58141 standard; peptide; 16 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The sequences given in R78282-85 represent immunomimetics to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (APHT-) APHTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 HWSYGLRPGRPPPPC 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Page 29; 39pp; English
                                                                                                                                                                                                                                                immunocastration; meat production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scibienski
Acres SD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94US-0188223.
                                                      98US-0084217
                                                                                 99WO-CA00360
                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                  /note= "Pyroglutamic acid"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ø
Harland
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 100;
Fred. No.
77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7.2e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
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RESULT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            luteinising hormone releasing hormone; spacer; immunomimic; uterine diphtheria toxoid; DT; gynaecological; endometriosis; uterine fibro gonadal steroid hormone associated dependent disease; gonadotropin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention is used to produce food animals that exhibit the weight gain and muscle/fat distribution of male animals without the problems associated with male animals. Such problems for traint, a urine-like odour found in cooked meat of uncastrated pigs which is caused by steroids stored in the tissues, and similar flavour impairments in the meat of other intact male animals. The invention is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                or during the fattening period to reduce circulating testosterone levels, and the second vaccination about 2-8 weeks before slaughter to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (GnRH) analogues which may be used as an alternative to sequence Y58135 in embodiments of the present invention. The invention
                                                        27-JAN-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chimeric -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chimeric -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GnRH immunomimic and spacer (GnRH(1-10)-Ser10)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13-MAR-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R78283;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R78283 standard; peptide; 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       substantially reduce androgenic and/or non-androgenic steroids.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequences Y58136-Y58141 represent gonadotropin releasing hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 11; 87pp; English
                                                                                                            26-JAN-1995;
                                                                                                                                                                                                                        WO9520600-A1
                                                                                                                                                                                                                                                                                                       Peptide
                                                                                                                                                                                                                                                                                                                                                             Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         benign prostatic hypertrophy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Immunomimetic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              more reliable than
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      uncastrated male animals for meat production, one vaccination prior to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             relates to a method of using two GnRH immunogen vaccines to produce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .mmunological contraception; mammal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ຎ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 HWSYGLRPGRPPPPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ω
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of uncastrated male food animals using vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gonadotropin releasing hormone; GnRH; LHRH;
                                                        94US-0188223
                                                                                                            95WO-US01225
                                                                                                                                                                                                                                                                                                    /note= "GnRH"
11..17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                              /note=
                                                                                                                                                                                                                                                                                                                                                                                    /note=
                                                                                                                                                                                                                                                                                                                                                                                                                   'label= OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              prior art immunocastration techniques.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16
                                                                                                                                                                                                                                                                        "spacer
                                                                                                                                                                                                                                                                                                                                                                                 "pyroglutamic acid"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 100;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 21;
7.2e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        uterine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           fibroids;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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(APHT-) APHTON CORP

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RESULT
Y58140
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Best Local S
Matches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The sequences given in R78282-85 represent immunomimetics to gonadotropin releasing hormone (GnRH). These peptides comprise the wild type GnRH sequence and a spacer attached to either the N- or C-terminal. The spacer molecules serve as a link through which the immunomimic is attached to an immunological carrier such as diphtheria toxoid (DT) and also affects the immune response generated between the content of the content 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   by the vaccinated mammal against the immunomimic. Compositions comprising these peptides may be used for treating a mammal for gonadctropin and gonadal steroid hormone associated dependent disease or for providing immunological contraception in mammals. They can also be used for treating breast cancer, uterine and other gynaecological cancers, endometriosis, uterine fibroids, prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; Page 29; 39pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Grimes
                                                                                                                                                                                                                 05-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       antibody; immunogenic; chimeric; vaccine; testosterone; androgenic; non-androgenic; steroid; reduction; weight gain; muscle distribution; fat distribution; male pattern; boar taint; flavour; impairment; reliable; immunocontent; non-account our taint; flavour; impairment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gonadotropin releasing hormone (GnRH) peptide analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New anti-gonadotropin releasing hormone immunogenic composition(s) used for treating gonadotropin and gonadal steroid hormone
                    WPI; 2000-062125/05
                                                                 Manns JG,
                                                                                                                                                                 05-MAY-1998;
                                                                                                                                                                                                                                                                                                             WO9956771-A2
                                                                                                                                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          reliable;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gonadotropin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Y58140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Y58140 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hwsyglrpgssppppc 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             disease(s) and providing contraception
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immunocastration; meat production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               benign
                                                                 Acres SD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scibienski
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                 98US-0084217
                                                                                                                                                                                                                 99WO-CA00360
                                                                                                                                                                                                                                                                                                                                                             /note= "Pyroglutamic acid"
                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      peptide; 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 prostatic hypertrophy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82
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                                                                    Harland
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hormone; GnRH; leukotoxin; LKT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   . 7%;
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Pred. No. 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   fusion protein;
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RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                        WPI; 1994-010165/02
N-PSDB; Q54394.
                                                                                                                              Gielen
                                                                                                                                                                                                                                                                                                                                                                             Gonadotropin releasing hormone; immunogenic carrier system; immune response; immunisation; vaccine; contraceptive agent
                                                                                                                                                                                                                                                                                                                                                                                                                     E. coli fimbriae
                                                                                                                                                                                                                                                                                                                                                                                                                                              07-JUL-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and muscle/fat distribution of male animals without the problems associated with male animals. Such problems include "boar taint", a urine-like odour found in cooked meat of uncastrated pigs which is caused by steroids stored in the tissues, and similar flavour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      substantially reduce androgenic and/or non-androgenic steroids. The invention is used to produce food animals that exhibit the weight gain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or during the fattening period to reduce circulating testosterone levels, and the second vaccination about 2-8 weeks before slaughter to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           relates to a method of using two (uncastrated male animals for meat
                                                                                                                                                                                                                                                            EP578293-A.
                                                                                                                                                                                                                                                                                                                                       Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R44955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R44955 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             more reliable than
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 11; 87pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Production of uncastrated male food animals using vaccines
                                     hormone
                                                              Immunogenic carrier system comprising Escherichia coli P-fimbriae
                                                                                                                                                     (ALKU ) AKZO
                                                                                                                                                                               18-JUN-1992;
                                                                                                                                                                                                          15-JUN-1993;
                                                                                                                                                                                                                                                                                                  Peptide
                                                                                                                                                                                                                                                                                                                                                                treatment;
                                                used to elicit immune response against gonadotropin releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 HWSYGLRPG-RPPPPC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hwsyglrpgssppppc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ces Y58136-Y58141 represent gonadotropin releasing hormone analogues which may be used as an alternative to sequence in embodiments of the present invention. The invention
                                                                                                                              ŢŢ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Y58136-Y58141 represent
                                                                                                                                                                                                                                                                                                                                                               sexual hyperactivity; cancer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA;
                                                                                                                                                                                                        93EP-0201712
                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                    /note= "decapeptide GnRH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein; 15
                                                                                                                                                                                                                                                                                                                                                                                                                    HR4 GnRH insert linker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        meat of other intact male animals. The invention is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           prior art immunocastration techniques
                                                                                                                              WPM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82.7%;
87.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       English
                                                                                                                              Van Der
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΑA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 83.5;
Pred. No. 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       two GnRH immunogen vaccines to produce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        production, one vaccination prior to
                                                                                                                              Zee
                                                                                                                              A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .3e-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
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Example 1; Fig

2; 34pp; English

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  Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The sequence is that of an insert contg. the decapeptide gonadotropin releasing hormone (GnRH) located in the major subunit of P-fimbriae with serotype F11 at a position corresponding to a position in hypervariable region 4 of the wild type major subunit. This forms part of an immunogenic carrier system capable of eliciting an immune
                                                                                                                                                                             The sequence is that of an insert contg. the decapeptide gonadotro releasing hormone (GnRH) located in the major subunit of P-fimbria with serotype F11 at a position corresponding to a position in hypervariable region 4 of the wild type major subunit. This forms part of an immunogenic carrier system capable of eliciting an immunogenic carrier system capable of 
                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1994-010165/02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-JUN-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-JUN-1993;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    treatment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gonadotropin releasing hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E. coli fimbriae HR4 GnRH insert linker.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-JUL-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R44956;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                       Example
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peptide
                                                                                                                                                                                                                                                                                                                                                                                       Immunogenic carrier system comprising Escherichia coli P-fimbriae used to elicit immune response against gonadotropin releasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (ALKU ) AKZO NV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mmune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 HWSYGLRPGRP 12
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10; Conserv
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                                                                                                                                                          against
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ponse; immunisation; vaccine;
sexual hyperactivity; cancer.
                                                                                                                                                                                                                                                                                                                       Fig 2; 34pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15
    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hoekstra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93EP-0201712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92EP-0201775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
2..11
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                       62.4%;
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                                                                                                                                                                                                                                                                                                                       English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Van Der Zee A,
  0;
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                       Score 63; DB 15; Length 16; Pred. No. 0.035;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. 0.033;
  Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Van Die IM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              carrier system;
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  Indels
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P-fimbriae
                                                                                                                                                                               an immune
  0;
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Gaps
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  0;
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                                                                                                                                     RESULT
Y31174
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XXXXXX

Y31174 standard;

peptide;

20

AA

28-OCT-1999 Y31174;

(first entry)

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                                                   Matches
                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                              Vaccines comprising antigen bound to carrier by an in vivo labile bond - especially synthetic peptide linked to fatty acid via thioester or dissulphide, provide greater immune response for wea
                                                                                                                                                                          molecule, can be used to elicit better immune responses against poorly immunogenic Ag then those Ag which contain a stable link to the carrier molecule. Ag dissociate from the carrier in vivo,
                                                                                                                                                                                                                                      A novel vaccine comprises an antigen (Ag), e.g. the present peptide, and carrier connected by a bond that is labile and
                                                                                                                                                                                                                                                                                                                                                                WPI;
                                                                                                               Sequence
                                                                                                                                      presentation by Ag-presenting cells.
                                                                                                                                                  resulting in better immune response for Ag that are normally only weakly immunogenic. The vaccine also improves targetting to, and
                                                                                                                                                                                                             dissociates under certain physiological conditions.
The vaccine, which allows dissociation of the Ag from the carrier
                                                                                                                                                                                                                                                                           Claim 9; Page 28; 36pp; English.
                                                                                                                                                                                                                                                                                                    immunogenic antigens
                                                                                                                                                                                                                                                                                                                                                                                        Beekman
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vaccine; antigen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Antigenic peptide
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(DIER-) STICHTING INST DIERHOUDERIJ EN DIERGEZONHEID.
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                           2 HWSYGLRPGR 11
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hwsyglrpgq
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                                                  Similarity 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                        NJCM,
                                                                                                               20
                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                AA;
                                                                                                                                                                                                                                                                                                                                                                                        Dalsgaard K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                    96EP-0201766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97WO-NL00354.
                                                            58.4%;
                                                  Score 59; DB 19;
Pred. No. 0.14;
1; Mismatches (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A
                                                                                                                                                                                                                                                                                                                                                                                        Meloen RH,
                                                                                                                                                                                                                                                                                                                                                                                        Schaaper WMM;
                                                                          Length 20,
                                                                                                                                                                                                                                                                                                               response for weakly
                                                  Indels
                                                  0;
                                                  Gaps
                                                   0;
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Ubiquitin

fusion

protein GnRH dimer

for

C-terminal extension

Ubiquitin;

immunocastration;

Synthetic

26-AUG-1999 W09942472-A1 pulmonary inflection; respiratory inflection; scaffold; anti-self; pi steridogenesis; gamete maturation; prostate; breast; castration; TNF; tumour necrosis factor; septic shock; arthritis; Crohn's disease;

pig;

tumour necrosis factor; septic shock; arthritis; Crohn's disease;
inflammatory bowel disease; ulcerative colitis; chorionic gonadotropin,
fertility; sperm protein; growth rate; antibody; detection; GnRH.

immune response stimulation; vaccine; T cell; viral; infection; cancer; bacterial; parasitic; treatment; gastrointestinal disease; HIV infection;

fusion protein; heat shock protein; epitope;

cc ability to stimulate an anti-self response provides a simple alternative cc to physical castration, as it does not result in any of the detrimental cc side effects associated with physical castration. Other examples of cc diseases and conditions treated with self proteins fused with ubiquitin care TNF and its epitopes to modulate septic shock, arthritis, ig cc enilammatory bowel disease, Crohn's disease, and ulcerative colitis; ig cc egsilon heavy chain for the control of allergic reactions; chorionic cc gonadotropin for fertility control; and sperm proteins for fertility control. A further use of the fusion proteins is as part of a vaccine to control. A further use of the fusion proteins is as part of a vaccine to shipment to market. In addition, the fusion proteins of the invention cc can be used to detect and identify antibodies from experimental samples. This sequence represents a GNRH dimer used in the construction of a cc ubiquitin fusion protein described in the method of the invention. Query Match Best Local s Matches 9 generation of anti-gonadotropin releasing hormone antibodies which result in the suppression of luteinizing hormone and follicle stimulating hormone. This indirectly suppresses steridogenesis and gamete maturation in males and females. This type of anti-self response in humans is useful in the treatment of prostate cancer and breast cancer. In livestock, the This invention describes a novel fusion protein, comprising a heat shock protein (e.g. ubiquitin), fused to an epitope(s) in a defined manner which is useful for the stimulation of a highly specific immune response when administered to an animal. The protein of the invention may be post-translationally modified (e.g. by the addition of fatty acids to enhance immunogenicity). The fusion proteins of the invention can be used as vaccines to induce an immune response. When a T cell epitope is attached, they can be used for control of viral infections, bacterial infections, parasitic infection and cancer. The fusion proteins can be used in pharmaceutical compositions for the treatment of gastrointestinal diseases, pulmonary inflections, respiratory inflections, and HIV infections. The use of ubiquitin as a scaffold is also useful for the presentation and stimulation of anti-self immune responses, e.g. Sequence Example 3; Page 40; 67pp; English. Epitope-containing fusion (IGEN-) IGEN INT INC Similarity 9; Conserv 20 Lohnas GL, Conservative responses 58.4%; Pilon proteins Score 59; Pred. No. ΑL, Mismatches Roberts SF, used 0 ៩ DB 20; Length 20 generate 0; Tramontano a highly 0, Gaps 0;

This invention describes a novel fusion protein, comprising a heat shock protein (e.g. ubiquitin), fused to an epitope(s) in a defined manner cwhich is useful for the stimulation of a highly specific immune response when administered to an animal. The protein of the invention may be composed immunogenicity). The fusion proteins of the invention can be considered, they can be used for control of viral infections, bacterial infections, parasitic infections and cancer. The fusion proteins can be used in pharmaceutical compositions for the treatment of gastrointestinal diseases, pulmonary inflections, respiratory inflections, and HIV confections. The use of ubiquitin as a scaffold is also useful for the presentation and stimulation of anti-self immune responses, e.g. composed in males and females. This type of anti-self response in humans is useful in the suppression of luteinizing hormone and follicle stimulation in males and females. This type of anti-self response in humans is useful in the treatment of prostate cancer and breast cancer. In livestock, the ability to stimulate an anti-self response provides a simple alternative to physical castration. Immunocastration of pigs is a better alternative to physical castration, as it does not result in any of the detrimental side effects associated with physical castration. Other examples of the physical castration for proteins fused with ubiquitin are TNF and its epitopes to modulate septic shock, arthritis, if ception heavy chain for the control of allergic reactions; chorionic control. A further use of the fusion proteins is as part of a vaccine to

19-FEB-1998; 26-JAN-1999; 98US-0026276 99WO-US01588

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RESULT
Y31178
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        bacterial; parasitic; treatment; gastrointestinal disease; HIV infection; pulmonary inflection; respiratory inflection; scaffold; anti-self; pig; steridogenesis; gamete maturation; prostate; breast; castration; TNF; tumour necrosis factor; septic shock; arthritis; Crohn's disease; inflammatory bowel disease; ulcerative colitis; chorionic gonadotropin;
                                                                                                                                                                                                                                                                             specific
                                                                                                                                                                                                                                                                                                      WPI; 1999-518582/43
                                                                                                                                                                                                                                                          Example 3; Page 41; 67pp; English.
                                                                                                                                                                                                                                                                                     Epitope-containing
                                                                                                                                                                                                                                                                                                                       Kenten JH, Lohnas GL,
                                                                                                                                                                                                                                                                                                                                                           19-FEB-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                               WO9942472-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ubiquitin fusion protein GnRH mixed dimer 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Y31178 standard; peptide; 20 AA
                                                                                                                                                                                                                                                                                                                                         (IGEN-) IGEN INT
                                                                                                                                                                                                                                                                                                                                                                                                                                                fertility; sperm protein; growth rate; antibody; detection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ubiquitin;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    immune response stimulation;
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                                                                                                                                                                                                                                                                             immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             immunocastration;
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                                                                                                                                                                                                                                                                                                                                                          98US-0026276
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                                                                                                                                                                                                                                                                            ing fusion proteins responses
                                                                                                                                                                                                                                                                                                                      Pilon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    fusion protein; heat shock protein;
vaccine; T cell; viral; infection;
                                                                                                                                                                                                                                                                                                                       ΑĹ,
                                                                                                                                                                                                                                                                                     used
                                                                                                                                                                                                                                                                                                                       Roberts
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                                                                                                                                                                                                                                                                                                                       SF,
                                                                                                                                                                                                                                                                                    generate a highly
                                                                                                                                                                                                                                                                                                                       Tramontano
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GnRH

epitope;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
              The peptide comprises at least 2 LHRH sequences in tandem. The peptide can be used to vaccinate mammals (e.g. pigs) against LHRH. Such vaccination is used in human medicine for the treatment of prostate cancer and breast cancer and some forms of hypophyseal carcinoma. Other applicns, include sterilisation of domestic animals and treatment of aggression in dogs. A major use of the vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding "boar vaccination is to improve meat quality in pigs by avoiding the pigs by avoiding the pigs by avoiding th
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                          Claim 4; Page 10; 15pp;
                                                                                                                                                                                                                                                                                                                                                                                                                     (DIER-) STICHT CENT DIERGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23-MAR-1989;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LHRH; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Luteinising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29-JAN-1991
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity hes 9; Conserv
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associated with the meat of sexually mature pigs
                                                                                                                                                                                                                                                                                                                                                                          RH,
                                                                                                                                                                                                                                                                                  for vaccinating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                                                                                                                                                                                                                        Wensing
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   89NL-0000726
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/note="OTHER=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                58.4%;
                                                                                                                                                                                                                                                     mammals against LHRH - comprises at least releasing hormone sequences in tandem
                                                                                                                                                                                                          English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-formyl-Trp (optional)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-formyl-Trp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No. 0.14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (optional)"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local :
     may be a spacer gp. between Gly(20) and Gln(21). The peptide can be used to vaccinate mammals (e.g. pigs) against LHRH. Such vaccination is used in human medicine for the treatment of prostate cancer and breast cancer and some forms of hypophyseal carcinoma. Other applicns, include sterilisation of domestic animals and
                                                                         Claim 2; Page 10; 15pp; English.
                                                                                             two
                                                                                                     Peptide for vaccinating mammals against LHRH - comprises at least
                                                                                                                                                                                23-MAR-1989;
                                                                                                                                                                                                  22-MAR-1990;
                                                                                                                                                                                                                     04-OCT-1990.
                                                                                                                                                                                                                                                                                       Misc-difference
                                                                                                                                                                                                                                                                                                                  Region
                                                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                             LHRH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R07323;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R07323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            See also
                                                                                                                                            Meloen
                                                                                                                                                             (DIER-) STICHT CENT DIERGEN
                                                                                                                                                                                                                                        WO9011298-A.
                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Luteinising hormone releasing hormone
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 HWSYGLRPGR
                                            peptide comprises at least 2 LHRH sequences in tandembe a spacer gp. between Gly(20) and Gln(21). The pept
                                                                                           luteinising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hwsyglrpgq
                                                                                                                                                                                                                                                                                                                                                                                                                                                             vaccine;
                                                                                                                                            RH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard; peptide;
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                                                                                                                                           Wensing
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                                                                                            hormone
                                                                                                                                                                                                                                                                                      /note="repeat
30
                                                                                                                                                                                                                                                          /note="OTHER=Gly-NH2 or Gly least one additional
                                                                                                                                                                                                                                                                                                                  /note="OTHER=
10..19
                                                                                                                                                                                                                                                                                                                                                                                   /note="OTHER=pyroglutamic acid
least one additional AA
                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                              label=OTHER
                                                                                                                                                                                                                                                                                                        'label=repeat
                                                                                                                                                                                                                                                                                                                                     label=OTHER
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90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            pigs; cancer;
                                                                                           releasing hormone sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 59; DB
Pred. No. 0.14
1; Mismatches
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                                                                                                                                                                                                                                                                                                must
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             sterilisation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               derived peptide
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                                                       There
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treatment of aggression in dogs.

A major use of the

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RESULT
Y31183
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This invention describes a novel fusion protein, comprising a heat shock CC protein (e.g. ubiquitin), fused to an epitope(s) in a defined manner which is useful for the stimulation of a highly specific immune response CC which is useful for the stimulation of a highly specific immune response CC when administered to an animal. The protein of the invention may be const-translationally modified (e.g. by the addition of fatty acids to enhance immunogenicity). The fusion proteins of the invention can be used as vaccines to induce an immune response. When a T cell epitope is a trached, they can be used for control of viral infections, bacterial CC infections, parasitic infection and cancer. The fusion proteins can be used in pharmaceutical compositions for the treatment of gastrointestinal CC infections. The use of ubiquitin as a scaffold is also useful for the presentation and stimulation of anti-self immune responses, e.g. Generation of anti-gonadotropin releasing hormone antibodies which result in the suppression of luteinizing hormone and follicle stimulating to hormone. This indirectly suppresses steridogenesis and gamete maturation cc in males and females. This type of anti-self response in humans is useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bacterial; parasitic; treatment; gastrointestinal disease; HIV infection; pulmonary inflection; respiratory inflection; scaffold; anti-self; pig; steridogenesis; gamete maturation; prostate; breast; castration; TNF; tumour necrosis factor; septic shock; arthritis; Crohn's disease; inflammatory bowel disease; ulcerative colitis; chorionic gonadotropin; fortility.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  to improve meat quality in pigs by avoiding "boar odour" associated with the meat of sexually mature pigs.
                                                                                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                  Epitope-containing fusion proteins used specific immune responses
                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1999-518582/43
                                                                                                                                                                                                                                                                                                                                                                                                                    Kenten
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-FEB-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unidentified
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    See also
                                                                                                                                                                                                                                                                                                                                                                                                                                                   (IGEN-) IGEN INT INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-JAN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Obiquitin;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Y31183 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hwsyglrpgq 11
                                                                                                                                                                                                                                                                                                  83; Page 43; 67pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 response stimulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  fusion protein GnRH fragment
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                   Lohnas GL,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein; growth rate;
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90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                    Pilon
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Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fusion protein; heat shock protein; epitope;
vaccine; T cell; viral; infection; cancer;
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                                                                                                                                                                                                                                                                                                                                                                                                                   ĀĹ,
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                                                                                                                                                                                                                                                                                                                                                                                                                   Roberts SF,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               colitis; chorionic gonadotropin;
antibody; detection; GnRH.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                  to generate a highly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 11;
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RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cc in the treatment of prostate cancer and breast cancer. In livestock, the cability to stimulate an anti-self response provides a simple alternative cc to physical castration. Immunocastration of pigs is a better alternative cc to physical castration, as it does not result in any of the detrimental cc side effects associated with physical castration. Other examples of confisces and conditions treated with self proteins fused with ubiquitin cc are Tur and its epitopes to modulate septic shock, arthritis, if confident confisces to control of allergic reactions; chorionic cc position heavy chain for the control of allergic reactions; chorionic cc control. A further use of the fusion proteins is as part of a vaccine to control. A further use of the fusion proteins is as part of a vaccine to shipment to market. In addition, the fusion proteins of the invention cc can be used to detect and identify antibodies from experimental samples. This sequence represents a GnRH fragment used in the construction of a ubiquitin fusion protein described in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                       Ubiquitin; immunocastration; fusion protein; heat shock protein; end immune response stimulation; vaccine; T cell; viral; infection; can bacterial; parasitic; treatment; gastrointestinal disease; HIV infepulmonary inflection; respiratory inflection; scaffold; anti-self; steridogenesis; gamete maturation; prostate; breast; castration; The tumour necrosis factor; septic shock; arthritis; Crohn's disease; inflammatory bowel disease; ulcerative colitis; chorionic gonadotrofertility; sperm protein; growth rate; antibody; detection; GnRH.
                                                                                                                                                                               Kenten
                                                                                                                                                                                                                                           19-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                             (IGEN-)
                                                                                                                                                                                                                                                                         26-JAN-1999;
                                                                                                                                                                                                                                                                                                     26-AUG-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ubiquitin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Y31182 standard;
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                                                                                                                                                                                                             IGEN INT INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               fusion protein GnRH fragment.
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                                                                                                                                                                             Lohnas GL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         peptide; 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            58.4%;
                                                                                                                                                                               Pilon
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Pred. No.
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This invention describes a novel fusion protein, comprising a heat sl protein (e.g. ubiquitin), fused to an epitope(s) in a defined manner which is useful for the stimulation of a highly specific immune respondent administered to an animal. The protein of the invention may be

heat shock response

Epitope-containing fusion specific immune responses

proteins

used

ç

generate

a highly

81;

Page

43; 67pp;

English

post-translationally modified (e.g. by the addition of fatty acids to enhance immunogenicity). The fusion proteins of the invention can be used as vaccines to induce an immune response. When a Toell epitope is attached, they can be used for control of viral infections, bacterial

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RESULT 14
W94891
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            control. A further use of the fusion proteins is as part of control. A further use of the shance growth rate and thereby the final head of the shance growth and thereby the shance growth and the self response in humans is useful the physical castration. Immunocastration of pigs is a better alternative to physical castration. Immunocastration of pigs is a better alternative to physical castration, as it does not result in any of the detrimental conditions treated with physical castration. Other examples of the deficit associated with physical castration. Other examples of the diseases and conditions treated with self proteins fused with ubiquitin are TNF and its epitopes to modulate septic shock, arthritis. If the control of allergic reactions; chorionic growth protein for the control, and sperm proteins for fertility control. A further use of the fusion proteins is as part of a vaccine to enhance growth rate and thereby the final weight of the livestock prior to shipment to market. In addition, the fusion proteins of the invention of this sequence represents a GNRH fragment used in the construction of the ubiquitin fusion protein described in the construction of the construction of the subiquition the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        diseases, pulmonary inflections, respiratory inflections, and HIV infections. The use of ubiquitin as a scaffold is also useful for the presentation and stimulation of anti-self immune responses, e.g. generation of anti-gonadotropin releasing hormone antibodies which result in the suppression of luteinizing hormone and follicle stimulating
                                                                                                 (CSLC-) CSL LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    infections, parasitic infection and cancer. The fusion proteins can be used in pharmaceutical compositions for the treatment of gastrointestinal
WPI; 1999-120511/10
                                               McNamara MK;
                                                                                                                                                                                                                                                                                                                                                                                                                              diphtheria toxoid; castrating; oestrus cycling; aggression; breast;
sexual activity; organoleptic; livestock; cell growth; malignant;
prostate; ovarian; oncofoetal; hyperplastic; pregnancy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                W94891;
                                                                                                                                                   09-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LHRH peptide fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W94891 standard; peptide; 9
                                                                                                                                                                                                    09-JUL-1998;
                                                                                                                                                                                                                                                                                                        WO9902180-A1
                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                            endometriosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LHRH; immune response; luteinising hormone releasing hormone;
                                                                                                                                                                                                                                                      21-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 HWSYGLRPGR 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                         inflammatory response
                                                                                                                                                     97AU-0007768
                                                                                                                                                                                                    98WO-AU00532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    58.4%;
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RESULT 15
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Best Local Similarity 100
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            livestock, e.g. reduction or elimination of unwanted organoleptic characteristics from the meat of livestock. They can also be used for inhibiting the growth of cells which are regulated directly or indirectly by LHRH, e.g. malignant breast cells, malignant prostate cells or malignant oncofoetal cells or hyperplastic cells. They can also be used for down-regulating the libido of an animal. They can also be used for inhibiting pregnancy, prostate enlargement, endometriosis or inflammatory responses. The LHRH compositions induce a more effective immune response against LHRH than the LHRH-carrier-adjuvant compositions. The effective immune response against LHRH than the HRH results in prevention of the release of the hormones LH and FSH from the anterior pituitary. Sequences W34890-93 are peptide derivatives of LHRH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates immunogenic composition for eliciting an immune response to luteinising hormone releasing hormone (LHRH). The composition comprises a LHRH-diphtheria toxold (DT) conjugate adsorbed to an ionic polysaccharide. The LHRH-DT compositions can be used for eliciting an immune response to LHRH, for castrating an animal, for regulating oestrus cycling in a female animal or for inhibiting characteristics induced by the sexual maturation of an animal, e.g. aggression or sexual activity. They can also be used for achieving production gains in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New immunogenic leutenising hormone releasing hormone compositions comprise LHRH conjugated to diphtheria toxoid and adsorbed to an ionic polysaccharide, used to inhibit reproductive function in animals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P10097;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P10097 standard; peptide; 10 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                 (AMHP ) AYERST MCKENNA HARR
                                                                   22-MAY-1980;
                                                                                                      27-AUG-1981;
                                                                                                                                         24-AUG-1981
                                                                                                                                                                            BE887639-A
                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                     Key
                                                                                                                                                                                                                                                                                                                      Mammal.
                                                                                                                                                                                                                                                                                                                                                     Gonadorelin; luteinising hormone releasing hormone; LH-RH ICSH; prostatic hyperplasia therapy.
                                                                                                                                                                                                                                                                                                                                                                                                          Sequence of luteinising hormone (LH-RH, ICSH) liberating hormone.
                                                                                                                                                                                                                                                                                                                                                                                                                                             19-AUG-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 3; Page 30; 41pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ||||||||||
| hwsyglrpg 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                   80US-0152241
                                                                                                      81BE-0303944
                                                                                                                                                                                                               /label= Gly-NH2
                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                  ′label= Pyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            57.4%; Score 58; 100.0%; Pred. No. tive 0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 20; 1
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ches 0;
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Search completed: March 2, 2001, 10:53:46 Job time: 911 sec
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                                                                                                                                                                      Query Match 57.4%; Score 58; DB 2; Length 10; Best Local Similarity 100.0%; Pred. No. 0.099; Matches 9; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                           The inventors claim a compsn. for the redn. or prevention of undesired prostatic growth in males. The compsn. contains a decapeptide (gonadorelin) (P10097) with an appropriate vehicle or support. The compsn. is used for treating e.g. benign prostatic hyperplasia by parenteral admin. in daily doses of 0.035-11.0 (pref. 0.080-2.0) mg/kg. Gonadorelin is the generic name for LH-RH and is described in US3835108. In the example s.c. injection of the compsn.significantly reduced the wt. of seminal vesicles and ventral prostate in rats without affecting the wt. of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1981-66067D/37 (66067D).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gonadorelin for treatment of benign prostatic hyperplasia - is the deca:peptide Pyr-His-Trp-Ser-Tyr-Gly-Leu-Arg-Pro-Gly-NH2 or luteinising hormone liberating hormone
                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1; Page 7; 9pp; French.
                                                                                                                                                                                                                                                                                                                  testicles.
                                                                                        2 HWSYGLRPG 10
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2 hwsyglrpg 10
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Query: US-09-306-689-10
Query length: 147
Database: A_Geneseq_36:*
Database sequences: 268485
Database length: 34193795
Search time (sec): 109.740000
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-THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE-LOCAL -OUTFMT=pfs
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-USER=-US09306689_eCGN1_1_187 -NCPU=6 -ICPU=3 -LONGLOG -NO_XLPXY
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/SIDS1/gcgdata/geneseq/geneseqp/AA2000
/SIDS1/gcgdata/geneseq/geneseqp/AA1998
/SIDS1/gcgdata/geneseq/geneseqp/AA1994
                  A synthetic DNA sequence (T37178) codes for a gonadotropin releasing hormone (GnRH) tetramer (W03944), in which the 4 GnRH repeat units are separated by spacers designed to increase immunogenicity. The DNA sequence was incoporated into vector pAA352 (ATCC 68283), which contains a truncated leukotoxin gene (LKT 352) derived from Pasteurella haemolytica, to give plasmid pCB113 (T37176). Escherichia coli transformants produce an LKT-GnRH fusion protein (see also W03942 and W03943) useful as a vaccine for fertility control of domestic or farm ar
                                                                                                                                        Gonadotropin-releasing hormone multimer fusion proteins - with leukotoxin polypeptide for increased immunogenicity, useful in antifertility vaccine prodn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Leukotoxin; LKT; gonadotropin-releasing hormone; GnRH; fusion protein; immunogen; vaccine; fertility control; contraceptive; sterilisation; pCB113; pCB111.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GnRH 4-repeat sequence
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). DAT: Y54053
). DAT: Y89760
3. DAT: W69276
1. DAT: R44953
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seq_documentation_block:
ID W79567 standard; Proi
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XX
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XX GnRH-2.
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XX Gonadotropin releasing the standard of the standar
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US-09-306-689-10 x w03944
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The present sequence represents a recombinantly produced or chemically synthesised Gonadotropin releasing hormone-2 (GnHR-2) polypeptide, which contains four copies of the GnHR decapeptide (VG1528) and triplet amino acid spacers between each of these sequences. This decapeptide is secreted naturally by the hypothalamus which controls release of both the luteinising hormone (LH) and the follicle stimulating hormone (FSH) in vertebrates. This sequence, as compared to the native peptide, has been found to have an N-terminal Gln rather than a pyroGlu residue, and also contains substitutions at amino acid residues 15 and 41, whereby His is replaced by Asp. This produces an alternating multimeric GnRH sequence which is highly immunogenic that can be used in the construction of a chimeric protein that comprises a leukotoxin polypeptide, several
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chimeric protein of leukotoxin and gonadotropin releasing useful for, e.g. preparation of vaccines for reduction of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gonadotropin releasing hormone; GnHR; decapeptide; LH; luteinising hormone; FSH; follicle stimulating pyroGlu; chimera; leukotoxin polypeptide; multimer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of mammary tumours in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (UYSA-) UNIV SASKATCHEWAN
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Ratio: 5.918
Similarity: 100.000
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seq_documentation_block: ID W61542 standard Pr
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Ratio: 5.918
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                                                                                            Immunisation against endogenous molecules by administering vaccine to ear - useful to elicit efficient and uniform immune response against e.g. gonadotrophin releasing hormone to immunocastrate pigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                       GnRH; gonadotrophin releasing hormone peptide hormone; leukotoxin;
immunisation; endogenous molecule; vaccine; ear; immunogen; carrie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           101 GCCCTGGCAGCGGTAGCCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             multimers, and the GnRH sequence. The chimeric protein can be used as a vaccine to help reduce the incidence of mammary tumours in a mammalian individual.
                                                                                                                                                       N-PSDB; V45190.
                                                                                                                                                                        WPI; 1998-446952/38
                                                                                                                                                                                                                                                               05-FEB-1997;
                                                                                                                                                                                                                                                                                            04-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                          immunisation; endogenous molecule; vaccine; ear; immunogen; carrier;
immune response; hormone receptor; cancerous cell; domestic animal;
porcine; bovine; luteinizing hormone; follicle stimulating hormone;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hormone GnRH-2 decapeptide (4 copies) fragment.
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                                                                                                 immunocastrate pigs
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This represents the amino acid sequence of the gonadotrophin releasing hormone (GnRH-2) decapeptide fragment used in the chimeric leukotoxin-GnRH polypeptide gene fusions. This is used to exemplify the method of

Example 1;

Fig 1B; 61pp; English.

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relatively uniform

from animal to animal.

49

AA;

or to elicit an immune response against a targeted endogenous cell type (e.g. a cancerous or otherwise diseased cell). It is especially useful to reduce the levels of GnRH in domestic animals, especially in porcine or bovine species. The use of GnRH immunogens in the vaccine reduces the levels of luteinizing hormone and follicle stimulating hormone and helps in immunocastrating the animal. Administration of vaccine compositions to the ear instead of intramuscular administration into the neck increases the efficiency of vaccination of mammals against endogenous immunogens, and may increase uniformity of vaccine presentation since the ear is

invention of immunisation against endogenous molecules by administering a vaccine which comprises an immunogen and a carrier to the ear of the mammal. The method is useful for eliciting an efficient and uniform immune response to block or suppress the activity of an endogenous hormone, hormone receptor, agonist or antagonist in a vaccinated subject,

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WPI; 2000-086857/07
N-PSDB; Z55702.
                                                                                                                                                                                                                                     04-JUN-1998;
06-MAY-1999;
                                                                                                    Robbins SC;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GnRH multimer; gonadotropin-releasing hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Four-copy gonadotropin-releasing hormone (GnRH) multimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y58363 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       immunocontraception; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTACGGCCTGCGGCTCGGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA
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99US-0306689
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   feline; canine; equine; cervine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 to:
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Synthetic

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seq_documentation_block:
ID Y58135 standard; Pr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CC The invention relates to GnRH immunogens, analogues or antibodies
CC that cross-react with endogenous GnRH of a vertebrate. A specifically
CC claimed immunogenic fusion protein (Y58361) comprises, in the N to
CC C-terminal direction, a synthetic peptide sequence (Y58364), an eight
CC copy GnRH multimer (composed of two copies of the 4xGnRH multimer
CC sequence of Y58363), the LKT protein (which functions as a carrier
CC sequence) of Y58363), the LKT protein (which functions as a carrier
CC sequence) of Y58363), the LKT protein (which functions as a carrier
CC sequence) of Y58363), the LKT protein (which functions as a carrier
CC sequence of Y58363), the LKT protein (which functions as a carrier
CC sequence of Y58363), the LKT protein (which functions as a carrier
CC sequence of Y58363), the LKT protein (which function may
CC vertebrate subject to result in prolonged suppression of reproductive
CC behaviour and/or fertility, GnRH immunogens, analogues or antibodies are
CC used to manufacture a composition or vaccine for immunosterilisation or
CC immunocontraception of feline, canine, equine or cervine subjects.
CC The vaccines are used to suppress reproductive behaviour and/or
CC results in a prolonged, long-term suppression of testicular development
CC covarian development and/or function in females. The methods provide a
CC viable and desirable alternative to surgical forms of sterilisation that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Align seg 1/1 to: Y58363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-306-689-10 x Y58363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
                                                               Gonadotropin releasing hormone; GnRH; leukotoxin; LKT; fusion protein; antibody; immunogenic; chimeric; vaccine; testosterone; androgenic; non-androgenic; steroid; reduction; weight gain; muscle distribution; fat distribution; male pattern; boar taint; flavour; impairment;
                                              reliable; immunocastration;
                                                                                                                                                                                     GnRH analogue multimer, containing four copies of the GnRH analogue.
                                                                                                                                                                                                                                       07-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence represents a four-copy gonadotropin-releasing hormone (GnRH) multimer, where the second and fourth GnRH sequence have a His to Asp substitution at position 2 of the GnRh sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vertebrates
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               are currently used.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 49
                                                                                                                                                                                                                                                                                                                                                                                                 /SIDS1/gcgdata/geneseq/geneseqp/AA2000.DAT:Y58135
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                                            meat production
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    Quality:
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                                                                                                              seq_name:
                                                                                                                                                                                                                                                                                                                                                                               alignment_block:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Creleasing hormone (GRH) analogue, DNA encoding which was Cused in the construction of a chimeric GRH-leukotoxin (LKT) fusion gene (Z46400). This fusion gene encodes a GRH-LEW fusion CC fusion gene (Z46400). This fusion gene encodes a GRH-LEW fusion CC retains which may be used as a vaccine. The LKT portion of the protein CC relates to a method of using two GRH immunogen vaccines to produce curcastrated male animals for meat production, one vaccination prior to CC or during the fattening period to reduce circulating testosterone levels, and the second vaccination about 2-8 weeks before slaughter to CC and the second vaccination about 2-8 weeks before slaughter to CC substantially reduce androgenic and/or non-androgenic steroids. The CC invention is used to produce food animals that exhibit the weight gain CC associated with male animals. Such problems include "boar taint", a CC caused by steroids stored in the tissues, and similar flavour impairments in the meat of other intact male animals. The invention is
                                                                                                                                                                                                                                                                                                                                  Align seg 1/1
                                                                                                                                                                                                                                                                                                                                                               US-09-306-689-10 x Y58135
                                                                                                                                                                                                                                                                                                                                                                                                            Ratio: 5.918 Percent Similarity: 100.000
20-NOV-1996
                                                                 W03943 standard; Protein; 544 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     more reliable
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mammalia
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This sequence represents four copies of a gonadotropin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 1; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Production of uncastrated male food animals using vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Manns JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BIOS-) BIOSTAR INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-MAY-1999;
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                                                                                                                                                                                                                                                                                                    1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG
                                                                                                                                          CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
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                                                                                                             /SIDS1/gcgdata/geneseq/geneseqp/AA1996.DAT:W03943
                                                                                                                                                                                                                                                                                                                                 to: Y58135
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        49
    (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ΑĄ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2B; 87pp; English.
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5.918
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Gaps: 0
Percent Identity: 100.000
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alignment_block:
US-09-306-689-10 x W03943
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F
                                                                                                                                                                                            Align seg 1/1 to: W03943
                                                                                                                                                                                                                                                                          Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                    sequence (see also W03944). It is the product of a chineric gene (T37177) produced by deleting an approx. 1300 bp sequence from pcB113 (see also T37176) coding for amino acids 352-784 of LKT-352. Recombinant plasmid pcB111 (LKT 111:4 copy GnRH, ATCC 69748) was obtd. Escherichia coli transformants produced the chimeric protein, which is useful as a vaccine for fertility control, esp. immunological sterilisation of domestic or farm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gonadotropin-releasing hormone multimer fusion proteins - will leukotoxin polypeptide for increased immunogenicity, useful antifertility vaccine prodn.
                              101
                                                                                                                              494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A chimeric protein (W03943) is composed of a fusion between a truncated leukotoxin (LKT-111) from Pasteurella haemolytica and a *copy gonadollberin releasing hormone (GRRH) repeat
                                                            510 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA
                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                         animals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 8; Fig 7A-7E; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1996-384447/38
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chimeric Pasteurella haemolytica Al strain B122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contraceptive; sterilisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; T37177.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Leukotoxin; LKT; gonadotropin-releasing hormone; GnRH;
fusion protein; immunogen; vaccine; fertility control;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UYSA-) UNIV SASKATCHEWAN
                                                                                              51
                                                                                                                          rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 542
                            GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                           CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
             Quality:
Ratio:
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494..544
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                                                                                                                                                                                              from: 1
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alignment_block:
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                                                                                                                                                                                                                                                          Ratio: 5.918 Percent Similarity: 100.000
                                                                                                                                                                               Align seg 1/1 to: W79570
                                                                                                                                                                                                               US-09-306-689-10 x W79570
                                                                                                                                                                                                                                                                                                                                            which ender response.

optimal immune response.

optimal immune response.

truncated LKT to be expressed at much may be truncated LKT to be expressed at much may be truncated LKT to be expressed. This chimeric particle of antigen administered to be reduced. This chimeric particle particle is chimeric particle of the incidence of mammalian individual.
                                                                                                                                                                                                                                                                                                                                                                                                                  which enables there to be an increase in antigen presentation and thus an optimal immune response. The removal of this region also enables the truncated LKT to be expressed at much higher levels and allows the amount of antigen administered to be reduced. This chimeric protein comprises a leukotoxin polypeptide, several multimers, and a GnRH sequence. The
                                                   510
                                                                                                                 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of mammary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chimera;
                    101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; V61532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LKT-GnRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            W79570 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Manns JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO9806848-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cytotoxic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24 -DEC - 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    four copies of the GnRH peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tumour.
                                                                                51
GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT
                                                                                                          {\tt GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe}
                                              CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                              CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  present sequence represents the 111. This plasmid contains the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1998-159540/14.
                                                                                                                                                                                                                                                                                            Quality:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein of leukotoxin and gonadotropin releasing hormone or, e.g. preparation of vaccines for reduction of incidence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pCB111; LKT 111; GnRH; Gonadotropin releasing hormone; multimer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         chimeric protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            activity; antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     , e.g. preparation of vaccines
tumours in mammals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Potter AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Figure 7.1-5; 118pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96US-0694865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97WO-CA00559
                                                                                                                                                                                                                                                                             290.00
5.918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein;
                                                                                                                                                                               from:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            544 AA
                                                                                                                                                                                                                                                            Percent Identity: 100.000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            presentation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the LKT-GnRH chimeric protein from
the LKT 111 polypeptide fused to
This chimera lacks cytotoxic activity
                                                                                                                                                                               ţo:
                                                                                                                                                                               544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            immune response;
                                                                                                                                                                                                                                                                             49
0
                                                  527
                                                                                                                510
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alignment_block:
                                                                                                                                                                                  alignment_scores:
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                                                            Align seg 1/1
                                                                                          US-09-306-689-10 x W79573
                                                                                                                                                                                                                                                                      LKT to be expressed at much higher levels and allows the amount antigen administered to be reduced. This chimeric protein compr leukotoxin polypeptide, several multimers, and a GnRH sequence chimeric protein can be used as a vaccine to help reduce the inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chimeric protein of leukotoxin and gonadotropin releasing useful for, e.g. preparation of vaccines for reduction of of mammary tumours in mammals {\bf r}
                                                                                                                                                                                                                                                           mammary tumours in a mammalian individual.
                                                                                                                                                                                                                                                                                                                                copies of GnRH. This chimera lacks cytotoxic activity which enables there to be an increase in antigen presentation and thus an optimal immune response. The removal of this region also enables the truncated
                                                                                                                                                                                                                                                                                                                                                                The present sequence represents the LKT-GnRH chimeric protein from pCB122. This plasmid contains the LKT 111 polypeptide fused to sixteen copies of the GnRH peptide, in the pattern of: 8 copies of GnRH-LKT 111 copies of GnRH. This chimera lacks cytotoxic activity which enables
                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 9; Figure 9.1-6; 118pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1998-159540/14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Manns JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9806848-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cytotoxic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chimera;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LKT-GnRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         W79573;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       W79573 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (UYSA-) UNIV SASKATCHEWAN.
   9
               1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG
GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe
                                                                                                                                    Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 542
                                                                                                                                                  Quality:
Ratio:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       V61535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pCB122; LKT 111; GnRH; Gonadotropin releasing hormone; multimer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             activity; antigen presentation;
                                                             .
0
                                                                                                                                                                                                                                695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Potter AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                             W79573
                                                                                                                                                                                                                              Α,
                                                                                                                                      290.00
5.918
100.000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96US-0694865
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein; 695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                            from: 1 to:
                                                                                                                                    Gaps:
Percent Identity:
                                                                                                                                                                  Length:
                                                                                                                                                                                                                                                                                       This chimeric protein comprises imers, and a GnRH sequence. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               immune response; vaccine;
                                                                                                                                      100.
25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hormone
incidence
                                                                                                                                                                                                                                                                            incidence
                                                                                                                                                                                                                                                                                                                                                                                 111-8
                                                                                                                                                                                                                                                                            of.
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42

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seq_name: /SIDS1/gcgdata/geneseq/geneseqp/AA2000.DAT:Y58361
alignment_block:
                                                                                      alignment_scores:
                           Percent Kimilarity:
                                                                                                                                                                                                                                            vertebrate subject to result in prolonged suppression of reproductive behaviour and/or fertility. GnFH immunogens, analogues or antibodies that cross-react with endogenous GnRH of a vertebrate subject are used to manufacture a composition or vaccine for immunosterilisation or immunocontraception of feline, canine, equine or cervine subjects. The vaccines are used to suppress reproductive behaviour and/or fertility for at least 10 months. The prepubertal administration results in a prolonged, long-term suppression of testicular development
                                                                                                                                                                                                                                                                                                                                                                                      This sequence represents a fusion protein comprising gonadotropin-releasing hormone (GNRH) immunogens and a Pasteurella haemolytica leukotoxin (LKT) protein. The fusion protein comprises, in the N to C-terminal direction, a synthetic peptide sequence (Y58364), are eight copy GNRH multimer (composed of two copies of the 4xGNRH multimer sequence of Y58363), the LKT protein (which functions as a carrier protein), and a second eight copy GNRH multimer. The fusion protein may be used in a vaccine composition for prepubertal administration to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chimeric - Mammalia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Y58361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    04-JUN-1998;
06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          09-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             W09962545-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Leukotoxin/gonadotropin-releasing hormone fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-MAR-2000
                                                                                                                                                                                         ovarian development and/or function in females. The methods provide a viable and desirable alternative to surgical forms of sterilisation that
                                                                                                                                                                                                               and/or function in males, or a prolonged, long-term suppression of ovarian development and/or function in females. The methods provide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 20; Fig 6A-6F; 88pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hormone immunogens, analogues or antibodies used to manufacture vaccines for suppression of reproductive behavior and fertility
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-MAY-1999;
                                                                                                                                           Sequence
                                                                                                                                                                            are currently used.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (BIOS-) BIOSTAR INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 immunocontraception; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000-086857/07
DB; Z55700.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard; Protein; 695
                                                                   Quality:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SC;
                                                     Ratio:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pasteurella haemolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gonadotropin-releasing hormone; GnRH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                           A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98US-0088024.
99US-0306689.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99WO-CA00493
                                  290.00
5.918
100.000
                                  Percent Identity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 feline;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 canine; equine; cervine
                                  : 49
: 0
: 100.000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   immunosterilisation;
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seq_documentation_block:
ID Y58133 standard; Proi
XX
AC Y58133;
XX
AC Y58133;
XX
Gonadotropin releasi
XX
Fat distribution manalia.
OS Chimeric - Mammalia.
OS Chimeric - Pasteurel
XX
I1-NOV-1999; 99WO-(
XX
O5-MAY-1999; 99WO-(
XX
O5-MAY-1998; 98US-(
XX
PF O5-MAY-1998; 98US-(
XX
PF O5-MAY-1998; 98US-(
XX
PF OF-MAY-1998; 98US-(
XX
PF OF-MAY-1998; 98US-(
XX
PF OF-MAY-1998; 98US-(
XX
PF Manns JG, Acres SD,
XX
PF Manns JG, Acres SD,
XX
PF Production of uncast:
XX
Claim 22; Fig 3A-3F;
XX
CC This sequence repress
CC This sequence repress
CC uncastrated male ani
CC uncastrated male ani
CC uncastrated with male
CC associated with male
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CC impairments in the mu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-306-689-10 x Y58361
                                                                                                                                                                                  and the second vaccination about 2-8 weeks before slaughter to substantially reduce androgenic and/or non-androgenic steroids. The invention is used to produce food animals that exhibit the weight gain and muscle/fat distribution of male animals without the problems associated with male animals. Such problems include "boar taint", a urine-like odour found in cooked meat of uncastrated pigs which is
                                                                                                                                                                                                                                                                                                                                                                                                                                This sequence represents a chimeric gonadotropin releasing hormone (GARH)-leukotoxin (LKT) fusion protein, which may be used as a vaccine. The LKT portion of the protein acts to enhance the immunogenicity of the multimeric GARH portion (Y58135). The invention relates to a method of using two GARH immunogen vaccines to produce uncastrated male animals for meat production, one vaccination prior to
                                                                                                               caused by steroids stored in the tissues, and similar flavour impairments in the meat of other intact male animals. The invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antibody; immunogenic; chimeric; vaccine; testosterone; androgenic; non-androgenic; steroid; reduction; weight gain; muscle distribution; fat distribution; male pattern; boar taint; flavour; impairment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gonadotropin releasing hormone; GnRH; leukotoxin; LKT; fusion protein; antibody; immunogenic; chimeric; vaccine; testosterone; androgenic;
                                                                                                                                                                                                                                                                                                                                                                                                      or during the fattening period to reduce circulating testosterone levels,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Production of uncastrated male food animals using vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Y58133 standard; Protein; 695 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               42
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /SIDS1/gcgdata/geneseq/geneseqp/AA2000.DAT:Y58133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22; Fig 3A-3F; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            immunocastration; meat production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Acres SD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pasteurella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         releasing hormone-leukotoxin fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98US-0084217
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seq_documentation_block:
ID W03942 standard: Pr
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A chimeric protein (W03942) is composed of a fusion between a truncated leukotoxin (LKT-352) from Pasteurella haemolytica (see also W03945) and a 4-copy gonadoliberin-releasing hormone (GnRH) repeat sequence (see also W03944). It is the product of a
                                                                                 Gonadotropin-releasing hormone multimer fusion proteins - with leukotoxin polypeptide for increased immunogenicity, useful in antifertility vaccine prodn.
                                                                                                                                                                                                                                                                                                                                                                                                              Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                    Leukotoxin; LKT; gonadotropin-releasing hormone; GnRH; fusion protein; immunogen; vaccine; fertility control; contraceptive; sterilisation.
                                                              Claim 7;
                                                                                                                                       N-PSDB;
                                                                                                                                                                           Manns
                                                                                                                                                                                                                           10-FEB-1995;
                                                                                                                                                                                                                                                  24-JAN-1996;
                                                                                                                                                                                                                                                                          15-AUG-1996
                                                                                                                                                                                                                                                                                                 W09624675-A1
                                                                                                                                                                                                                                                                                                                                       Domain
                                                                                                                                                                                                                                                                                                                                                                         Key
                                                                                                                                                                                                                                                                                                                                                                                                   Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LKT-GnRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      W03942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            W03942 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                101
                                                                                                                                                                                                   (UYSA-) UNIV SASKATCHEWAN
                                                                                                                                                                                                                                                                                                                                                               Domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe
                                                                                                                                       1996-384447/38.
DB; T37176.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /SIDS1/gcgdata/geneseq/geneseqp/AA1996.DAT:W03942
                                                                                                                                                                        JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Quality:
                                                             Fig 5A-5H; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                 synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein fusion from
                                                                                                                                                                                                                                                                                                                                                                                                            Pasteurella haemolytica Al
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                                                                                                                                                                           Potter AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                         95US-0387156
                                                                                                                                                                                                                                                  96WO-CA00049
                                                                                                                                                                                                                                                                                                                                     /label= LKT
927..977
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5.918
                                                                                                                                                                                                                                                                                                                        /label= GnRH_repeat_domain
                                                                                                                                                                                                                                                                                                                                                                        ocation/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            977 AA
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                                                                                                                                                                                                                                                                                                                                                                                                            strain B122;
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seq_name:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity: 100.000
                                                                                                                                                                                                                                                                                                                                                    Chimera; p
cytotoxic
                                                          Chimeric protein of leukotoxin and gonadotropin releasing useful for, e.g. preparation of vaccines for reduction of of mammary tumours in mammals
                                                                                                                              WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   chimeric gene (T37176) produced by ligating a synthetic sequence for the 4-copy GnRH into vector pAA352 (ATCC 68283), which carries the LKT-352 gene. Recombinant plasmid pCB113 (LKT-3524 copy GnRH, ATCC 69749) was obtd. Escherichia coli transformants produced the chimeric protein, which is useful as a vaccine for fertility control, esp. immunological sterilisation of domestic or farm animals.
                                                                                                                 N-PSDB;
                                                                                                                                                       Manns
                                                                                                                                                                                                         09-AUG-1996;
                                                                                                                                                                                                                                   08-AUG-1997;
                                                                                                                                                                                                                                                                                                              Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                              w79569;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            927 GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe
                                                                                                                                                                                                                                                            19-FEB-1998
                                                                                                                                                                                                                                                                                    WO9806848-A1
                                                                                                                                                                                                                                                                                                                                                                                         LKT-GnRH chimeric protein
                                                                                                                                                                                                                                                                                                                                                                                                                    24-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        W79569 standard; Protein; 977 AA
                                                                                                                                                                               (UYSA-) UNIV SASKATCHEWAN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   51 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                               1998-159540/14.
DB; V61531.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /SIDS1/gcgdata/geneseq/geneseqp/AA1998.DAT:W79569
                                                                                                                                                     JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Quality:
                                                                                                                                                                                                                                                                                                                                                   pCB113; LKT 352; GnRH; Gonadotropin releasing hormone; multimer;
c activity; antigen presentation; immune response; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ratio:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                to:
                                                                                                                                                     Potter AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             977
                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 W03942
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Gaps: 0
Percent Identity: 100.000
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0:
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                                                                        hormone
incidence
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The present sequence represents the LKT-GnRH chimeric protein pCB113. This plasmid contains the LKT 352 polypeptide (W79568

(W79568) fused

to

from

Figure

5.1-8;

118pp;

English.

chimeric protein can be

mammary tumours

can be useu a. in a mammalian

ie, several multimers, and a GnRH sequence. The
be used as a vaccine to help reduce the incidence of

Sequence

977

Ã,

which enables there to be an increase in antigen presentation and thus an optimal immune response. The removal of this region also enables the truncated LKT to be expressed at much higher levels and allows the amount of antigen administered to be reduced. This chimeric protein comprises a

four copies of the GnRH peptide.

This chimera lacks cytotoxic activity

Claim 83; Page 43;

English

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alignment_scores
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                seq_name:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Align seg 1/1 to: W79569
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity: 100.000
                                                                                                                                                                                                                                                                                                                                                      Ubiquitin; immunocastration; fusion protein; heat shock protein; epitope; immune response stimulation; vaccine; T cell; viral; infection; cancer; bacterial; parasitic; treatment; gastrointestinal disease; HIV infection; pulmonary inflection; respiratory inflection; scaffold; anti-self; pig; steriogenesis; gamete maturation; prostate; breast; castration; TNF;
             Epitope-containing fusion proteins used to specific immune responses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           943 rTyrGlyLeuArgProGlyGlySerSerGlnHisTrpSerTyrGlyLeuA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    927 GlnHisTrpSerTyrGlyLeuArgProGlySerGlySerGlnAspTrpSe
                                                          WPI; 1999-518582/43.
                                                                                                                        (IGEN-) IGEN INT INC.
                                                                                                                                                       19-FEB-1998;
                                                                                                                                                                                    26-JAN-1999;
                                                                                                                                                                                                                                                 W09942472-A1
                                                                                                                                                                                                                                                                               Unidentified
                                                                                                                                                                                                                                                                                                              fertility; sperm protein; growth rate;
                                                                                                                                                                                                                                                                                                                          tumour necrosis factor; septic shock; arthritis; Crohn's disease; inflammatory bowel disease; ulcerative colitis; chorionic gonadotropin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ubiquitin fusion protein GnRH fragment 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Y31183 standard; peptide; 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         51 CTACGGCCTGCGTCCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGATTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rgProGlySerGlySerGlnAspTrpSerTyrGlyLeuArgProGly 975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:Y31183
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Ratio:
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                                                                                                                                                       98US-0026276
                                                                                                                                                                                    99WO-US01588
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5.918
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                                                                                         Pilon
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6
                                                                                         Roberts
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                                                                                                                                                                                                                                                                                                             antibody; detection;
                                                                                         SF,
                           generate a highly
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alignment_block:
US-09-306-689-10 x Y31183
EXEXTX AX
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                                                                                                                                                                                                                                         seq_documentation_block:
                                                                                                                                                                                                                                                                                              seq_name: /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:Y31182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CC attached, they can be used for control of viral infections, parasitic infection and cancer. The fusion proteins can be considered in pharmaceutical compositions for the treatment of gastrointestinal cdiseases, pulmonary inflections, respiratory inflections, and HIV confections. The use of ubiquitin as a scaffold is also useful for the conservation of anti-gonadotropin releasing hormone antibodies which result in the suppression of luteinizing hormone and follicle stimulating confined in the treatment of prostate cancer and breast cancer. In livestock, the confined effects associated with physical castration, as it does not result in any of the detrimental confiderates and conditions treated with self proteins fused with ubiquitin care TNF and its epitopes to modulate septic shock, arthritis, control. A further use of the fusion proteins is as part of a vaccine to shipment to market. In addition, the fusion proteins of the invention construction of confideration for the fusion proteins is as part of a vaccine to control. A further use of the fusion proteins is as part of a vaccine to can be used to detect and identify antibodies from experimental samples. This sequence represents a GRRH fragment used in the construction of construction construction constru
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Align seg 1/1 to: Y31183 from: 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                       28-OCT-1999
                                                                                                                                                                                                               Y31182 standard; peptide; 41 AA
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                                                                                                                                                                                                                                                                                                                                                                                                         101 GCCCTGGCAGCGGTAGCCAAGATTGGAGCTACGGCCTGCGTCCGGGT 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51 CTACGGCCTGCGTCGGGTGGCTCTAGCCAGCATTGGAGCTACGGCCTGC
                                                                                                                                                                                                                                                                                                                                                      28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CAGCATTGGAGCTACGGCCTGCGCCCTGGCAGCGGTTCTCAAGAATTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 GlnHisTrpSerTyrGlyLeuArgProGly......GlnHisTrpSe
                                                                                                                                                                                                                                                                                                                                                      rgProGly.....
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                                                                                                       (first entry)
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5.250
77.551
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77.551
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Ubiquitin; immunocastration; fusion protein; heat shock protein; epitope;

Obiquitin fusion protein GnRH fragment.

Align

seg 1/1

ç O:

Y31182

from: 1

ç 6

41

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alignment_scores:
    Quality:
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Ratio:
Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This invention describes a novel fusion protein, comprising a heat shock protein (e.g. ubiquitin), fused to an epitope(s) in a defined manner which is useful for the stimulation of a highly specific immune response when administered to an animal. The protein of the invention may be post-translationally modified (e.g. by the addition of fatty acids to enhance immunogenicity). The fusion proteins of the invention can be a considered to the invention of the invention of the invention of the invention can be a considered to the invention of the inv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   immune response stimulation; vaccine; T cell; viral; infection; cancer; bacterial; parasitic; treatment; gastrointestinal disease; HIV infection; pulmonary inflection; respiratory inflection; scaffold; anti-self; pig; steridogenesis; gamete maturation; prostate; breast; castration; TNF; tumour necrosis factor; septic shock; arthritis; Crohn's disease; inflammatory bowel disease; ulcerative colitis; chorionic gonadotropin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        to shipment to market. In addition, the fusion proteins of the invention can be used to detect and identify antibodies from experimental samples. This sequence represents a GRRH fragment used in the construction of a ubiquitin fusion protein described in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 81; Page 43; 67pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lohnas GL,
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77.551
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alignment_block: US-09-306-689-10 x Y31182

Percent

Identity:

77.551

Sequence

323

AΑ;

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seq_documentation_block:
ID R11187 standard; Protein;
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                                                                 Plasmid pBTA859 is a TraTp-LHRH analogue fusion in which 8 copies of an LHRH analogue have been inserted between amino acids 200 and 201 of TraTp (Ogata R.T. et al., (1982) J.Bacteriol. 151:819-827). The plasmid was constructed by two successive additions of DNA coding for a dimer of LHRH analogue into the Smal site of pBTA862 (see Q11020) which all ready carries four copies of the LHRH sequence. After transformation, colonies with B LHRH molecules were identified. Fusion proteins with multiple inserts generated a higher anti-LHRH response (as measured by the binding of (125)I-LHRH at a serum dilution of 1:2000 final) than constructs with a single
                                                                                                                                                                                                                                                                               Fusion proteins comprising LHRH analogue and TraTp (analogue) - useful in vaccine for inhibition or control of reproduction in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-MAR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Plasmid pBTA859-encoded TraTp-multiple LHRH analogue fusion
                                                                                                                                                                                                                                                                   vertebrates,
                                                                                                                                                                                                                                                                                                                                                                        Russell-Jones GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                   25-AUG-1989;
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                          in outbred mice and dogs. The fusion proteins reproductive functions in vertebrates. o Q10995, Q10997-Q11000, Q11014-Q11020.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               90WO-AU00373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /label= 8 LHRH analogues in tandem repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /label= TraTp signal
                                                                                                                                                                                                                                                                   domestic animals
                                                                                                                                                                                                                                                                                                                                                                        Stewart AG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .GlnHisTrpSerTyrGlyLeuArgProGly
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